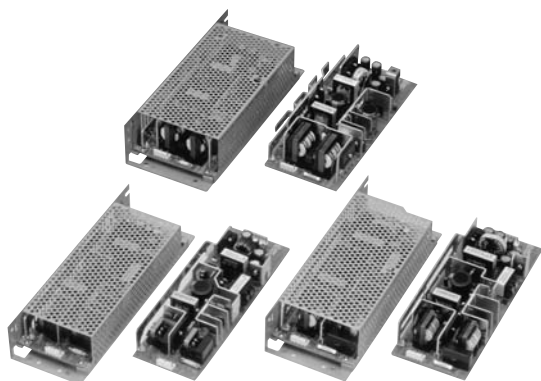


LEB Series



- Dual Isolated Outputs
- High Peak Current Ratings
- Optional Remote On/Off
- Adjustable Output Voltage
- Level B Conducted Emissions
- Universal Input
- Optional Auxiliary Outputs

Specification

Input

Input Voltage	• 85-264 VAC (120-370 VDC)
Input Frequency	• 47-67 Hz
Input Current	• See table
Inrush Current	• 15 A typical at 100 VAC, 30 A typical at 200 VAC, 100% load 25 °C
Power Factor	• 0.99 typical
Earth Leakage Current	• 0.75 mA max at 240 VAC 60 Hz
Input Protection	• LEB100: 5 A internal fuse LEB150: 6.3 A internal fuse LEB225: 8 A internal fuse

Output

Output Voltage	• See tables
Output Voltage Trim	• $\pm 10\%$ V1 only
Initial Set Accuracy	• $\pm 0.4\%$ maximum
Minimum Load	• No minimum load required
Start Up Time	• V1: 250 ms, V2: 500 ms (output rising to 10% Vnom)
Hold Up Time	• V1: 40 ms typical, V2: 20ms typical at 200 VAC, 100% load
Drift	• $\pm 0.2\%$ after 30 min warm up
Line Regulation	• 0.4% max over specified input range
Load Regulation	• 0.8% max for a 100% load change
Over/Undershoot	• $< 1\%$ at turn on/off
Transient Response	• $< 4\%$ max. deviation, recovery to within 1% in 15 ms for a 0-100-0% load change
Ripple & Noise	• V1: 160 mV pk-pk max, V2: 360 mV pk-pk max, 20 MHz b/w.
Overvoltage Protection	• V1: 115% Vnom requires unit to be returned for repair. V2: 115-140% Vnom recycle mains to reset
Overtemperature Protection	• Output V2 shuts down at 70 °C, auto recovery (225 W units only)
Overload Protection	• V1: Foldback operation at 105%, V2: Constant current until voltage drops to 50% then trip and restart (Hiccup mode), auto recovery
Short Circuit Protection	• V1: Foldback, V2: Trip and restart (Hiccup mode), auto recovery
Temperature Coefficient	• 0.03 %/°C
Remote On/Off (V2)	• TTL low V2 on, TTL high V2 off.

General

Efficiency	• 80% typical
Isolation	• 3000 VAC Input to Output 2000 VAC Input to Ground 500 VAC Output to Ground, 100 VAC V1 to V2
Switching Frequency	• 80 kHz typical PFC, 90-500 kHz typical V1 PWM, 120 kHz typical V2 PWM (100 & 225 W), 130 kHz typical V2 PWM (150 W)
Power Density	• LEB100: 1.8 W/In ³ , LEB150: 2.16 W/In ³ , LEB225: 2.5 W/In ³
Signals	• Remote On/Off (Option '-R')
MTBF	• > 290 kHrs per EIAJ RCR-9102

Environmental

Operating Temperature	• -10 °C to +70 °C (see derating curve)
Cooling	• Convection-cooled
Operating Humidity	• 20-90% RH, non-condensing
Storage Temperature	• -20 °C to +75 °C
Operating Altitude	• 3000 m max
Shock	• 20 g, 11 ms once on each axis
Vibration	• 10-55 Hz, 2 g 3 minute period, 60 minutes along each axis

EMC & Safety

Emissions	• EN55022 level B conducted & radiated
Harmonic Currents	• EN61000-3-2, class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 2 contact, level 3 air Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 3 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, Level 4 Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 3 Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30 % 10 ms, 60 % 100 ms, 95 % 5000 ms Perf Criteria A, A, B
Safety Approvals	• UL60950-1, C-UL, EN60950-1, VDE0160

Models and Ratings

LEB XP

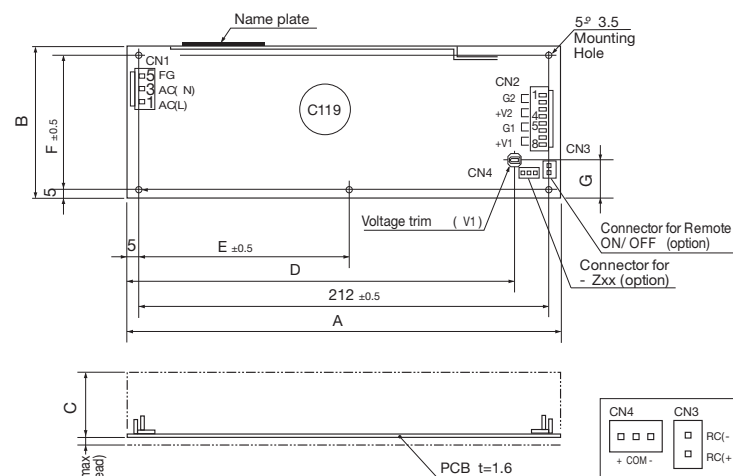
Output Power	Input Current ⁽¹⁾	Output V1		Output V2			Model Number
		V	I	V	I	I Peak ⁽²⁾	
100 W	1.5 A	5.0 V	5.0 A	12.0 V	5.0 A	10.0 A	LEB100F-0512
	1.5 A	3.3 V	5.0 A	24.0 V	4.0 A	7.0 A	LEB100F-0324
	1.5 A	5.0 V	5.0 A	24.0 V	4.0 A	7.0 A	LEB100F-0524
	1.5 A	5.0 V	5.0 A	30.0 V	3.2 A	5.6 A	LEB100F-0530
	1.5 A	5.0 V	5.0 A	36.0 V	2.7 A	4.7 A	LEB100F-0536
150 W	2.0 A	5.0 V	5.0 A	12.0 V	7.5 A	14.0 A	LEB150F-0512
	2.0 A	3.3 V	5.0 A	24.0 V	6.0 A	10.0 A	LEB150F-0324
	2.0 A	5.0 V	5.0 A	24.0 V	6.0 A	10.0 A	LEB150F-0524
	2.0 A	5.0 V	5.0 A	30.0 V	4.8 A	8.0 A	LEB150F-0530
	2.0 A	5.0 V	5.0 A	36.0 V	4.0 A	6.7 A	LEB150F-0536
225 W	2.5 A	5.0 V	5.0 A	12.0 V	10.0 A	20.0 A	LEB225F-0512
	2.5 A	3.3 V	5.0 A	24.0 V	9.0 A	14.0 A	LEB225F-0324
	2.5 A	5.0 V	5.0 A	24.0 V	9.0 A	14.0 A	LEB225F-0524
	2.5 A	5.0 V	5.0 A	30.0 V	7.2 A	11.0 A	LEB225F-0530
	2.5 A	5.0 V	5.0 A	36.0 V	6.0 A	9.3 A	LEB225F-0536

Notes

1. Input current rated at 100 VAC and full load.

2. Peak current 10 seconds max, 35% duty cycle.

Mechanical Details



Dimensions (mm)							
Model	A	B	C	D	E	F	G
LEB100	222	75	32	197		65	17
LEB150	222	85	37	204	105	75	24
LEB225	222	95	42	200	124	85	15.5

Pin Connections: CN2		
LEB100/150	LEB225	Output
1 & 2	1, 2 & 3	-V2
3 & 4	4, 5 & 6	+V2
5 & 6	7 & 8	-V1
7 & 8	9 & 10	+V1

Options

- G : Low leakage current, 0.1mA max
 - R : Remote On/Off
 - S : with chassis
 - SN : with chassis & cover (Minimum AC input 90 V. Contact sales for chassis mount mechanical details).
 - T : Terminal block input/output connectors
 - Y : with output adjustment potentiometer V1 only
 - Z : unit fitted with Cosel ZT unit (See table below)
- ZT is a 3 W DC/DC converter fitted to the power supply to give an extra 1 or 2 auxiliary outputs. Contact sales for option details.

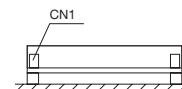
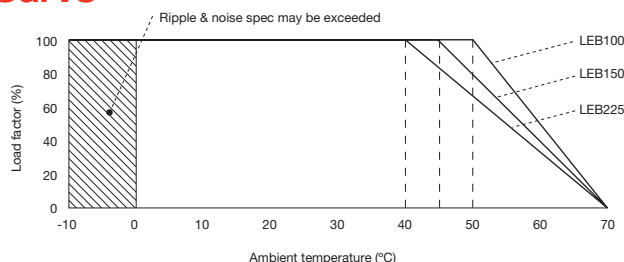
Notes

- All measurements are in mm. Tolerance: ± 1 mm.
- CN2 rating 5 A max per pin (7 A at peak load).
- Mounting torque: 1.5 Nm
- Weights (without chassis & cover):
LEB100: <420g, LEB150: <530g, LEB225: <700g

- Input/Output connectors:
CN1 - B3P5-VH
CN2 - B8P-VH
CN3 - B2B-XH-A
CN4 - B3B-XH-A
- Mating connectors:
CN1 - VHR-5N
CN2 - VHR-8N
CN3 - XHP-2
CN4 - XHP-3
(Manufacturer: J.S.T.)
- Terminals:
CN1 & CN2 Chain - SVH-21T-P1.1
CN1 & CN2 Loose - BVH-21T-P1.1
CN3 & CN4 Chain - SXH-001T-P0.6
CN3 & CN4 Loose - BXH-001T-P0.6

Optional Suffix					
V2 $\geq$ 24 V	-Z31	-Z32	-Z33	-Z34	-Z35
Mounted Power Supply	ZTS3 2405	ZTS3 2412	ZTS3 2415	ZTW3 2412	ZTW3 2415
Output Voltage	5 V/0.6 A	12 V/0.25 A	15 V/0.2 A	± 12 V/0.13 A	± 15 V/0.1 A
Optional Suffix					
V2 = 12 V	-Z21	-Z22	-Z23	-Z24	-Z25
Mounted Power Supply	ZTS3 1205	ZTS3 1212	ZTS3 1215	ZTW3 1212	ZTW3 1215
Output Voltage	5 V/0.6 A	12 V/0.25 A	15 V/0.2 A	± 12 V/0.13 A	± 15 V/0.1 A

Derating Curve



Contact sales for other mounting options.