

150W Convection cooled

AC-DC power supplies

The LBA150 series of compact, convection-cooled 150W AC-DC power supplies are designed to deliver quiet, consistent performance across a wide range of industrial technology applications. With a wide input range, active power factor correction, regulated single output voltages from 5V to 48VDC and output voltage adjustment, the LBA150 series provides engineers with a versatile and robust power platform suitable for demanding industrial environments.

Featuring Class B conducted and radiated emissions, worldwide ITE safety approvals, wide temperature range, compact footprint, a power "ON" LED, remote ON/OFF and an integrated connector cover, the LBA150 is designed for easy integration into applications including auxiliary power units, security and surveillance systems, industrial automation, lighting control, smart home and building control equipment.



Features

- ▶ 150W convection cooled
- ▶ Universal, single phase input: 90 to 264VAC
- ▶ Regulated single outputs from 5V to 48VDC
- ▶ Active PFC
- ▶ ITE safety approvals
- ▶ Class B conducted & radiated emissions
- ▶ Integrated connector cover
- ▶ Output voltage trim, remote ON/OFF
- ▶ Efficiency, up to 89%
- ▶ Short circuit, overvoltage & overload protection
- ▶ LED power ON status indicator
- ▶ -30°C to +70°C operating temperature
- ▶ 3 year warranty

Applications



Industrial electronics



Instrumentation



Robotics



Technology

Dimensions

199.0 x 99.0 x 30.0 mm (7.83" x 3.89" x 1.18")

Documentation

For further information click the link or scan the code

→ xppower.com



Models & ratings

Model number	Output voltage		Output current	Ripple & noise pk to pk ⁽¹⁾	Efficiency ⁽²⁾	Maximum capacitive load	Power
	Nominal	Adjustment range ⁽³⁾					
LBA150PS05	5.0V	4.75 - 5.5V	30.0A	100mV	86.0%	6000µF	150W
LBA150PS12	12.0V	10.0 - 13.2V	12.5A	100mV	88.0%	3600µF	150W
LBA150PS15	15.0V	13.5 - 15.5V	10.0A	100mV	88.5%	3000µF	150W
LBA150PS24	24.0V	21.6 - 26.4V	6.3A	100mV	88.5%	2000µF	150W
LBA150US48	48.0V	43.2 - 52.8V	3.2A	250mV	89.5%	1000µF	154W

Notes:

1. Ripple & noise measured with 20MHz bandwidth and using 20±2cm twisted pair-wire terminated with 47µF electrolytic capacitor in parallel with 0.1µF ceramic capacitor.
2. Typical efficiencies measured at 230VAC full load.
3. The total output power must not exceed the rated output power.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage - operating	90	115/230	264	VAC	Derate output power linearly from 100% at 100VAC to 80% at 90VAC.
Input frequency	47	50/60	63	Hz	
Power factor		0.98			115VAC at full load
		0.95			230VAC at full load
Input current - full load			2.0	A	115VAC at full load
			1.0		230VAC at full load
Inrush current			30	A	115VAC cold start at +25°C ambient
			60		230VAC cold start at +25°C ambient
Earth leakage current			1.0	mA	240VAC / 50Hz
Input protection	T3.15A/250VAC Internal fuse fitted in line				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	5		48	VDC	See Models & Ratings table
Initial set accuracy			±2	%	Full load
			±1		5V & 12V models All other models
Voltage adjustment	See Models & Ratings table				
Minimum load	0			A	No minimum load required
Start up time			2	s	115 / 230VAC full load at +25°C
Rise time			50	ms	115 / 230VAC full load
Hold up time	16			ms	115 / 230VAC full load
Line regulation			±0.5	%	110-264VAC, full load
Load regulation			1	%	From 0-100% load
Transient response			4	%	Recovery within 1% in less than 0.5ms for a 50-75% and 75-50% load step
Ripple & noise	See Models & Ratings table				
Over / Undershoot			10	%	Full load
Overvoltage protection	110		140	%	5V-24V models
			60	V	48V model
					Protection type: Clamp, auto recovery
Overload protection	105		135	%	Nominal output current, constant current limit & auto recovery
Temperature coefficient		±0.03		%/°C	
Short circuit protection	Trip & restart, auto recovery				
Remote on/off (RC)	Low/floating: power supply is ON, high (4-10VDC): power supply is OFF				

Notes:

1. All specifications valid at 230VAC, full load and +25°C, unless otherwise stated.

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency	See Models & Ratings table				
Isolation: input to output input to ground output to ground	3000			VAC	Class I construction
	1800			VAC	
	500			VAC	
Switching frequency		75		kHz	PFC & Main converter
Power density			0.261 (4.282)	W/cm ³ (W/in ³)	
Mean time between failure	200			khrs	MIL-HDBK-217F, +25°C GB.
Weight		600 (1.323)		g (lb)	
Case material	Aluminium chassis with vented galvanized steel cover				

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-30		+70	°C	See derating curve
Storage temperature	-40		+85	°C	
Over temperature protection	EUT shutdown with auto recovery, temperature measured internally				
Cooling	Natural convection				
Humidity	20		95	%RH	Non-condensing
Operating altitude			2000	m	
Vibration	Tested according to EN60068-2-27, 10-500Hz, 5g (1H) for each X, Y and Z plane				

EMC: emissions

Phenomenon	Standard	Test level	Notes & conditions
Conducted	EN55032	Class B	
Radiated	EN55032	Class B	
Harmonic current	EN61000-3-2	Class A	
Voltage flicker	EN61000-3-3		

EMC: immunity

Phenomenon	Standard	Test level	Criteria	Notes & conditions
ESD immunity	EN61000-4-2	2/3	B	Contact ±4kV / Air ±8kV
Radiated immunity	EN61000-4-3	10V/m	A	
EFT	EN61000-4-4	±2kV	B	
Surge	EN61000-4-5	Installation class 3	B	Line to line ±1kV, line to ground ±2kV
Conducted	EN61000-4-6	10Vrms	A	
Magnetic field	EN61000-4-8	30A/m	A	
Dips	EN61000-4-11 (230VAC)	Dip. 100% (0VAC), 20ms	B	
		Dip. 20% (184VAC), 500ms	B	
		Dip. 30% (161VAC), 500ms	B	
Interruptions	EN61000-4-11	Int. 100% (0VAC), 5000ms	C	

Notes:

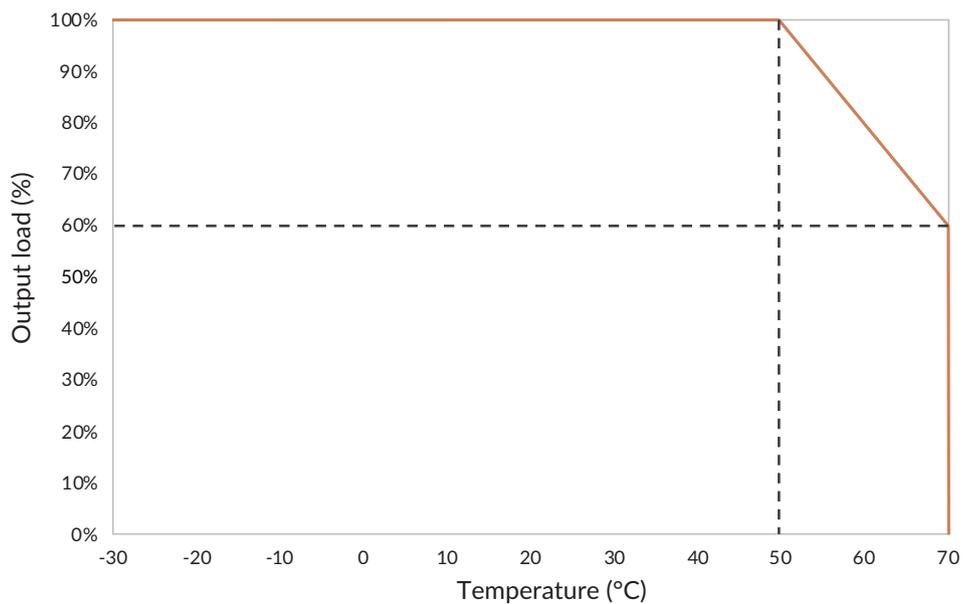
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Safety approvals

Certification	Standard	Notes & conditions
CB	IEC62368-1	Information technology
UL	UL62368-1	Information technology
TUV	EN62368-1	Information technology
CCC	China Compulsory Certification, GB4943, GB17625.1, GB4943.1, GB/T9254	Information technology
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Application notes

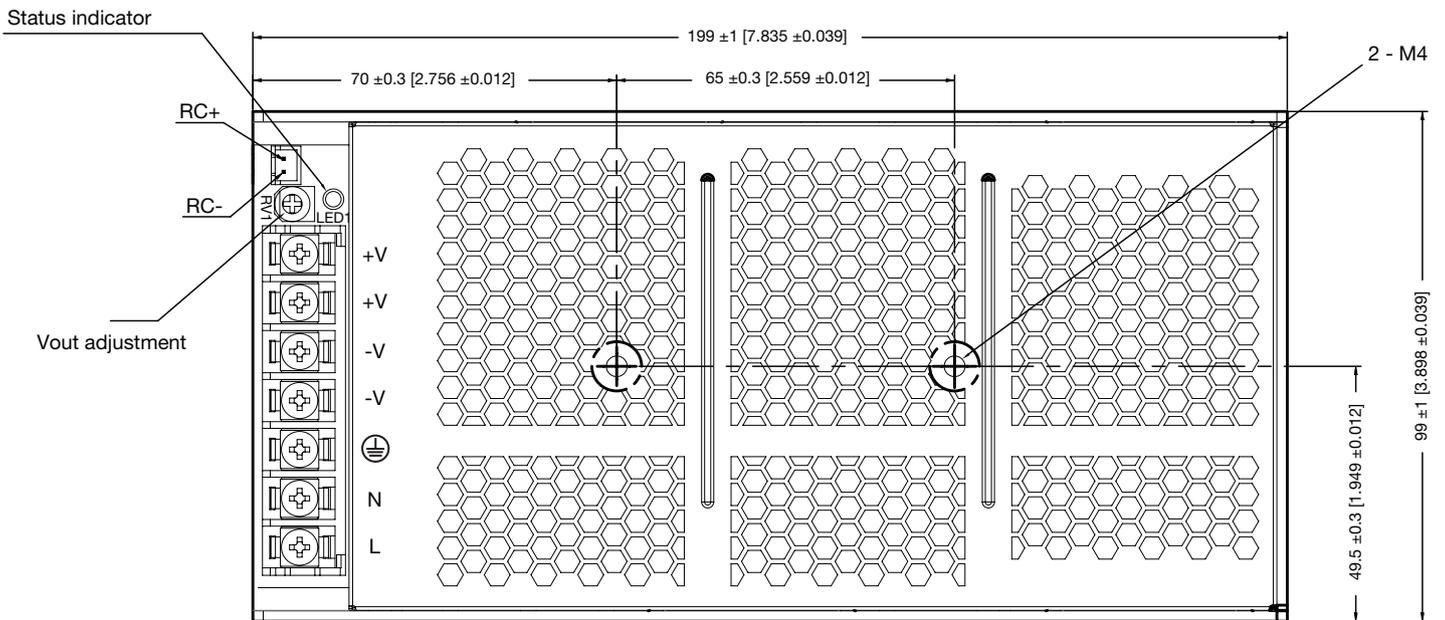
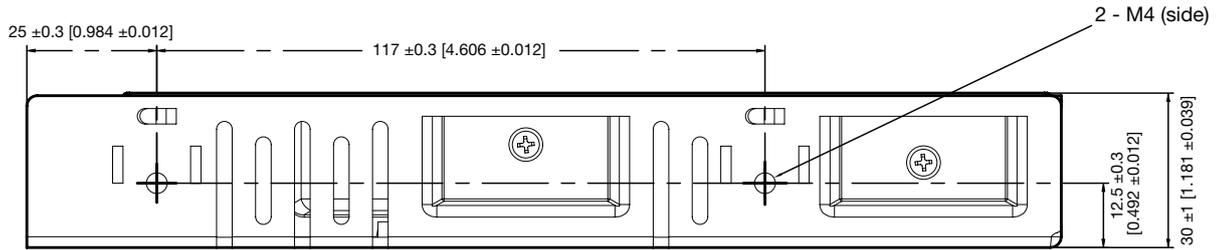
Temperature derating



Notes:

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Mechanical details



Notes:

1. All dimensions are in mm (inches).
2. Terminal screw tightening torque: M4 12N-m (1.2Kgf-cm)
3. Mounting screw tightening torque: M4 0.8N-m (8Kgf-cm)
4. Mounting screw penetration depth: 4mm max
5. Mounting screw length : 5mm
6. Chassis must be connected to protective earth