

SPU16B series

V3.4

The SPU16B series of AC/DC switching mode power supplies provide 15 Watts of continuous output power. All models meet FCC Part-15 class B and CISPR-32 class B emission Limits and are designed to comply with cTUVus and CE marking conformity assessment. All units pass burn-in test at full load condition.



15W External Power Supply for General Purpose

FEATURES:

- * Wide Operating Voltage 90 to 264 VAC, 47 to 63 Hz
- * IEC-320-C8 Input Inlet
- * Optional Output Connector (See Page Appendix)
- * Single Output
- * Class II System
- * CoC v5 (Tier2)
- * 3-Year Warranty

APPLICATIONS:

- * Ethernet Hub
- * Portable Devices
- * Charger
- * Monitor
- * Set-Top Box
- * AV Equipment

APPROVALS:



GENERAL SPECIFICATION:

- * **Short Circuit Protection:** Auto Recovery
- * **Cooling:** Free Air Convection
- * **Protection Classes:** Double Insulated, Class II
- * **Safety:** UL 62368-1, IEC 62368-1 Edition 2.0, EN 62368-1, CSA C22.2 NO.62368-1

Electrical Characteristics:

Characteristic	Condition	Min.	Typ.	Max.	Unit
Safety Approval Input Voltage Range	Safety Approval & Specification in Label	100		240	VAC
Input Operate Voltage Range	Detail to See Fig.1	90		264	VAC
Input Frequency	Sine Wave	47		63	Hz
Output Power Range	See Rating Chart			15	W
Low Line Input Current	Full Load, Vin=100VAC		0.4		A
High Line Input Current	Full Load, Vin=240VAC		0.16		A
Low Line Input Inrush Current	Full Load, 25°C, Cool Start, Vin=100VAC	35		45	A
High Line Input Inrush Current	Full Load, 25°C, Cool Start, Vin=240VAC	70		90	A
Efficiency	Full Load, Vin=230VAC, Detail to See Rating Chart	See Rating Chart			
Line Regulation	Full Load, Vin=100~120VAC	0.5		1	%
Load Regulation	Vin=230VAC, 10~90% Load Change at Condition	3		7	%
Over Load Protection	Nil. But Output Protected to Short Circuit Conditions				
Time of Transient Response	Io=Full Load to Half Load, Vin=110VAC			4	ms
Hold-Up Time	Full Load, Vin=100VAC	See Rating Chart			
Start-up time	Full Load, Vin=100~240VAC			2	s
Temperature Coefficient	Full load, Vin=100~240VAC			±0.04	%/°C
Dielectric Withstanding Voltage (P-S)	Primary to Secondary			4242	VDC
EMC Emission	Compliance to EN55032 (CISPR32)			B	Class

Environmental:

Characteristic	Condition	Min.	Typ.	Max.	Unit
Operating Temperature	Detail to See Fig.2 (Derate Linearly from 100% Load at 40°C to 50% Load at 70°C)	0		70	°C
Storage Temperature	10 ~ 95% RH	-40		85	°C
Operating Humidity	Non-Condensing	0		95%	RH
Storage Humidity		0		95%	RH
Electro Static Discharge	Air Discharge, IEC61000-4-2			8	kV
Electro Static Discharge	Contact Discharge, IEC61000-4-2			4	kV
Mean Time Between Failure	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F	100k			h
Operating Altitude (Elevation)	All Condition			2000	m
Vibration	10 ~ 500Hz, 10min./1cycle, 60min. Each Along X, Y, Z Axes			5	G
Surge Voltage	Line-Neutral			1	kV

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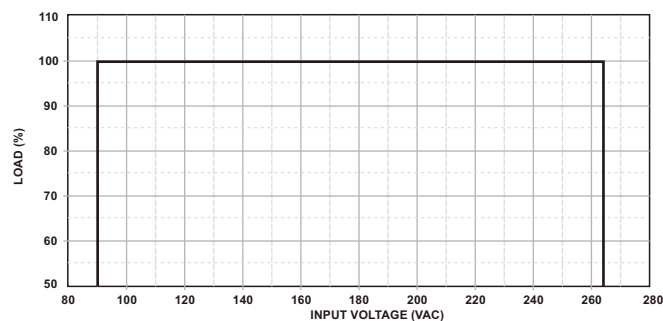
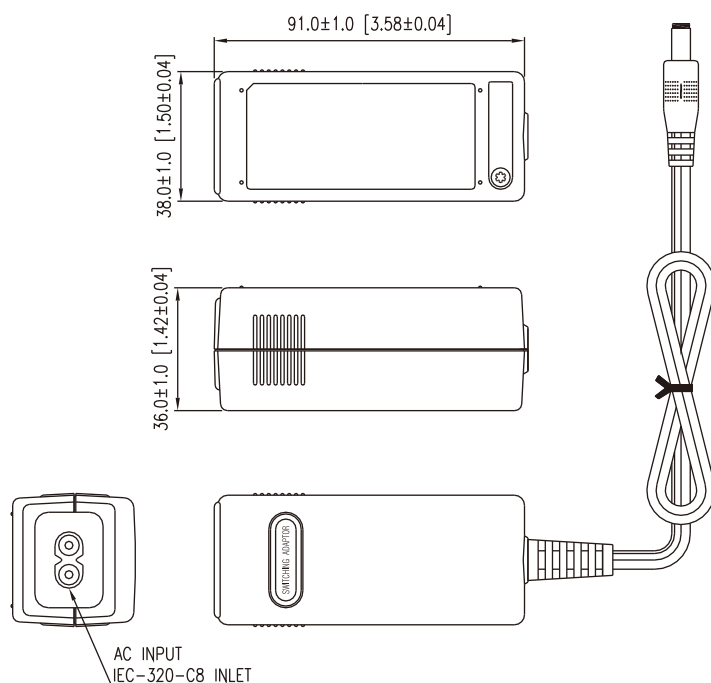
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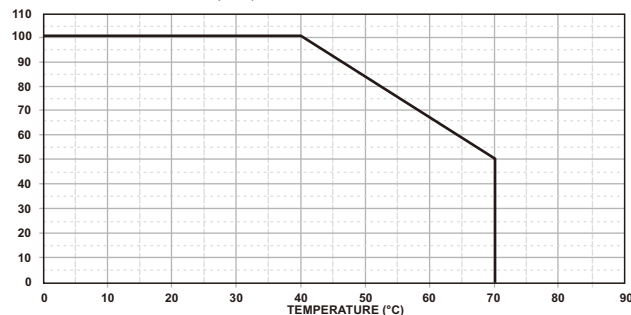
SPECIFICATION NOTE :

1. Output can provide up to peak load when the power supply starts up. Continuous staying in more than rated load is not allowed.
2. At factory, in 60% rated load condition, each output is checked to be within voltage accuracy.
3. Line regulation is defined by changing $\pm 10\%$ of input voltage from nominal line at rated load.
4. Load regulation is defined by changing $\pm 40\%$ of measured output load from 60% rated load.
5. The ripple is measured from peak to peak with a bandwidth-limit of 20MHz (Measured at the output connector with a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor).
6. Hold up time is measured from the end of the last charging pulse to the time which the main output drops down to low limit of main output at rated load and nominal line.
7. Efficiency is measured at rated load, and nominal line.

MECHANICAL DIMENSIONS: (UNIT: mm [inch])



(FIG.1) INPUT VOLTAGE DERATING CURVE



(FIG.2) TEMPERATURE DERATING CURVE

OUTPUT CABLE RECOMMEND :

1. Selected output connectors and wire, please refer to Appendix.
2. SPU16B-102~104 are required to use AWG#16/4FT output cable.
3. SPU16B-105~108 are required to use AWG#18/4FT output cable.
4. The regulation and efficiency will be changed by modified output cable.

NET WEIGHT : 165g approx.

Rating Chart:

MODEL NO.	Setting Voltage Range (Factory setting, can't be adjusted)		Output Current (Based on the output volt.)		Maximum Output Power	Ripple & Noise	Total Regulation	Typ. Efficiency	Typ. 10% Load Efficiency	Typ. No Load Consumption	Hold-Up Time	Protection Mode
	min	max	min	max								
	(VDC)	(VDC)	(A)	(A)							(ms)	
SPU16B-102	5.0	5.99	2.00	2.40	12	100	±5	80.3	71	0.075	8	Hiccup
SPU16B-104	9.4	11.0	1.36	1.59	15	100	±5	84.5	74.5	0.075	8	Hiccup
SPU16B-105	11.0	13.0	1.15	1.36	15	100	±5	84.5	74.5	0.075	8	Hiccup
SPU16B-106	13.0	16.0	0.94	1.15	15	100	±5	84.5	74.5	0.075	8	Hiccup
SPU16B-107	16.0	21.0	0.72	0.94	15	100	±5	84.5	74.5	0.075	8	Hiccup
SPU16B-108	21.0	24.0	0.62	0.72	15	120	±5	85	74.5	0.075	8	Hiccup

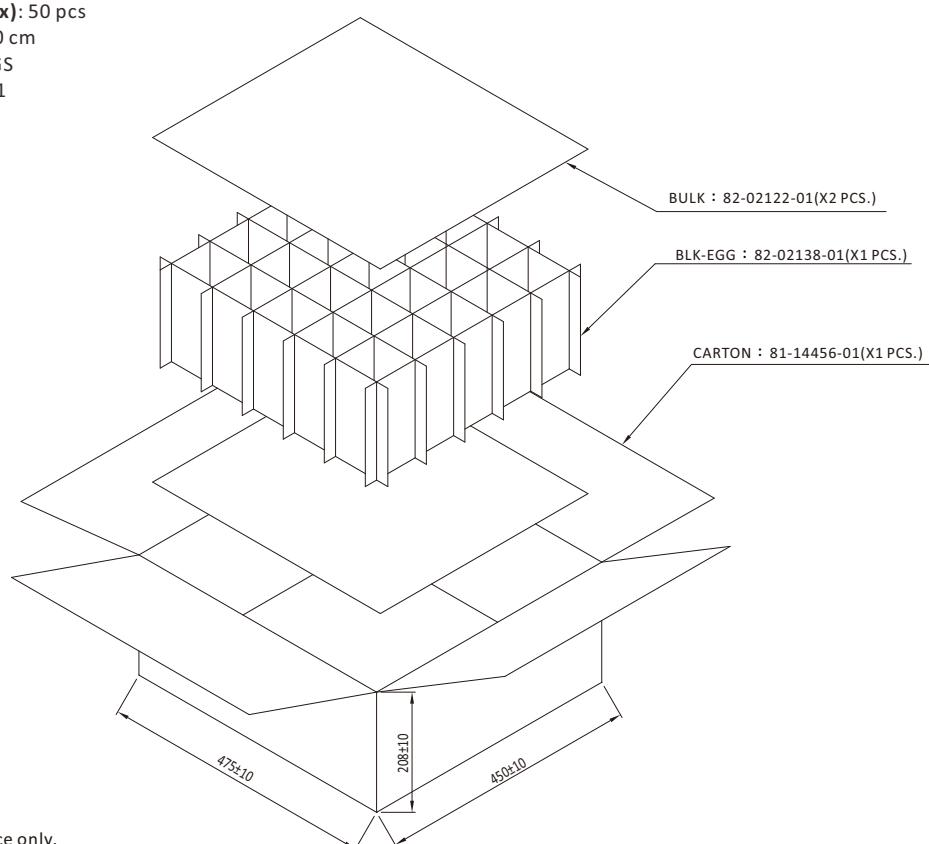
EMC Specifications:

EMISSION		
ITEM	STANDARD	RESULT
Conducted	EN55022	CLASS B
Radiated	EN55022	CLASS B
Harmonics	EN61000-3-2	CLASS A
Flicker	EN61000-3-3	PASS

IMMUNITY			
ITEM	STANDARD	RESULT	CRITERION
ESD	EN61000-4-2	8KV air discharge, 4KV contact discharge	A
RS	EN61000-4-3	PASS	A
EFT	EN61000-4-4	1KV	A
SURGE	EN61000-4-5	1KV line to line	A
CS	EN61000-4-6	3Vrms	A
PFMF	EN61000-4-8	PASS	A
Voltage dips	EN61000-4-11	i) 30% reduction for 25cycle at 50Hz	A
		ii) 95% reduction for 0.5 cycle at 50Hz	A (240VAC)
Voltage interruptions	EN61000-4-11	95% reduction for 250 cycles at 50/60Hz	B

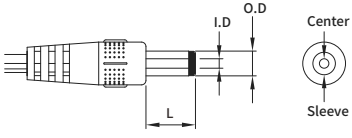
STANDARD PACKAGING : (UNIT: mm)

- * Power Supplies per Box (full box): 50 pcs
- * Box Dimensions: L48*W45*H20 cm
- * Gross Weight (full box): 8.42 KGS
- * Packaging Part No: 84-03144-01

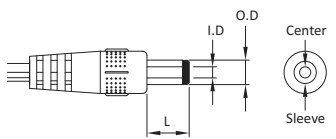


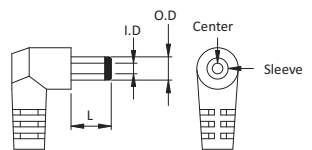
* Note the above packing is for reference only,
please contact sales for a confirm packing information.

Standard Connector:

Barrel Female Plug	Plug PN	OD	ID	L	Standard Connection(Default)	Wire Material	Wire Type
	P01K	5.5	2.1	11	Center=OUT(+) Sleeve=RTN(-)	UL2468	102~104:16AWG/4FT
						SPT-1	105~108:18AWG/4FT
						UL1185	109~111:20AWG/4FT

Optional Connector:

Barrel Female Plug	Plug PN	OD	ID	L	Standard Connection(Default)	Wire Material	Wire Type
	P01J	5.5	2.1	9.5	Center=OUT(+) Sleeve=RTN(-)	UL2468	102~104:16AWG/4FT
	P01M	5.5	2.5	9.5		SPT-1	105~108:18AWG/4FT
	P01N	5.5	2.5	11		UL1185	109~111:20AWG/4FT

Barrel Angle Female Plug	Plug PN	OD	ID	L	Standard Connection(Default)	Wire Material	Wire Type
	P02J	5.5	2.1	9.5	Center=OUT(+) Sleeve=RTN(-)	UL2468	102~104:16AWG/4FT
	P02K	5.5	2.1	11		SPT-1	105~108:18AWG/4FT
	P02M	5.5	2.5	9.5		UL1185	109~111:20AWG/4FT
	P02N	5.5	2.5	11			

* Optional output connectors available contact sales for details.