General

SPU151A series V2.3

150W External Power Supply for General Purpose

The SPU151A series of AC/DC switching mode power supplies provide 150 Watts of continuous output power . All models meet FCC Part-15, AS/NZS CISPR 32 and EN55032, BS EN55032 class B emission Limits, EN55035, BS EN55035 and are designed to comply with UL/cUL and conformity assessment in CE marking. All units pass burn-in test at full load condition.

5K

FEATURES:

* Wide Operating Voltage, 90 to 260 VAC, 47 to 63 Hz
* IEC-320-C14 Input Inlet
* Single Output
* Over Voltage Protection (latch off)
* Active Power Factor Correction
* DoE VI
* Operating Altitude 5000m
* 3 year warranty

APPLICATIONS:

* Industrial PC
* Power Tools
* Audio & Vedio Equipment
* Inspection Analyzer

APPROVALS:

GENERAL SPECIFICATION:

* **Short Circuit Protection**: Auto Recovery
* **Cooling**: Free Air Convection
* **Protection Classes**: Class I
* **Safety**: CAN/CSA C22.2 NO.62368-1-1, EN62368-1:2014+A11:2017, IEC62368-1, UL62368-1:2nd, EN60950-1:2006 /A2:2013, IEC 60950-1:2005 /A2:2013

Electrical Characteristics:

Symbol	Characteristic	Condition	Min.	Typ.	Max.	Unit
Vins	Safety Approval Input Voltage Range	Safety Approval & Specification in Label	100		240	VAC
Vin	Input Operate Voltage Range	Detail to see Fig.1	90		260	VAC
Fi	Input Frequency	Sine wave	47		63	Hz
PF	Power Factor Correction		0.95		1	
Po	Output Power Range	See Rating Chart			150	W
Iil	Low Line Input Current	Full Load, Vin=100VAC		2		A
Iih	High Line Input Current	Full Load, Vin=240VAC		0.8		A
Irl	Low Line Input Inrush Current	Full Load, 25°C, Cool start, Vin=100VAC			60	A
Irh	High Line Input Inrush Current	Full Load, 25°C, Cool start, Vin=240VAC			120	A
Ik	Safety Ground Leakage Current	Vin=240VAC, Fi=60Hz			0.75	mA
η	Efficiency	Full Load, Vin=230VAC, Detail to see Rating Chart	See Rating Chart			
▵Voi	Line Regulation	Full Load, Vin=100~120VAC or 200~240VAC			1	%
OVP	Over Voltage Protection	Latch off, recycle input to reset	112		132	%
OLP	Over Load Protection	Nil.But,Output protected to short circuit conditions				%
ttr	Time of Transient Response	Io=Full Load to Half Load, Vin=110VAC			4	ms
thu	Hold-Up Time	Full Load, Vin=110VAC	See Rating Chart			
ts	Start-up time	Full Load, Vin=100~240VAC			2	s
Ris	Insulation Resistance	Primary to Secondary, 500VDC,25°XC/ 70% RH	50			MΩ
Tc	Temperature Coefficient	All Condition			±0.04	%/°C
HV	Dielectric Withstanding Voltage (P-S)	Primary to Secondary, limit current <10mA			4242	VDC
Vpg	Dielectric Withstanding Voltage (P-G)	Primary to PE, limit current <10mA			2121	VDC
EMI	EMC Emission	Compliance to EN55032 (CISPR32), EN55035	B			Class

Environmental:

Symbol	Characteristic	Condition	Min.	Typ.	Max.	Unit
To	Operating Temperature	Detail to see Fig.2 (Derate linearly from 100% load at 40°C to 50% load at 70°C)	-20		70	°C
Ts	Storage Temperature	10 ~ 95% RH	-40		85	°C
Ho	Operating Humidity	non-condensing	0		95%	RH
Hs	Storage Humidity		0		95%	RH
ESDa	Electro Static Discharge	Air Discharge, IEC61000-4-2			8	kV
ESDc	Electro Static Discharge	Contact Discharge, IEC61000-4-2			4	kV
MTBF	Mean Time Between Failure	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F	100k			h
ELEV	Operating Altitude (Elevation)	All condition			5000	m
VBR	Vibration	10 ~ 500Hz, 10min./1cycle, 60min. each along X, Y, Z axes			5	G
Vsl	Surge Voltage	Line-Neutral			1	kV
Vsg	Surge Voltage	Line-PE & Neutral-PE			2	kV

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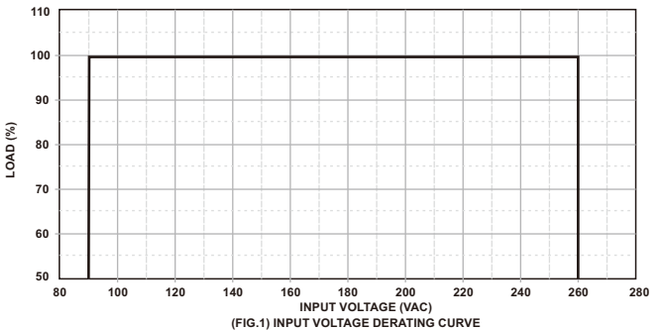
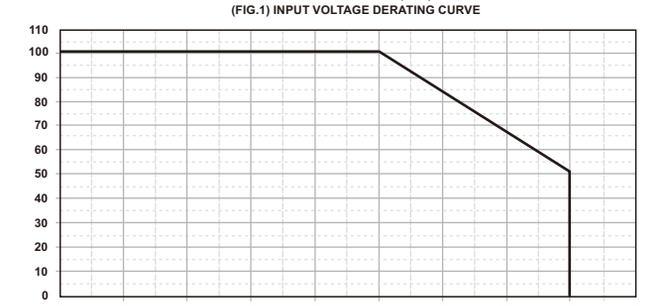
SPECIFICATION NOTE :

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 ±10% of input voltage from nominal line at rated load.
4. Load regulation is defined by changing ±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.



(FIG.1) INPUT VOLTAGE DERATING CURVE



(FIG.2) TEMPERATURE DERATING CURVE

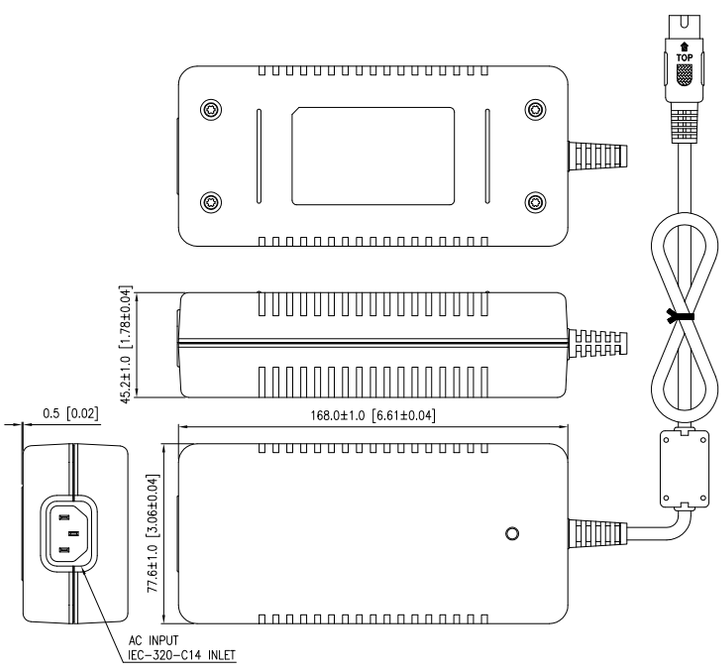
OUTPUT CABLE RECOMMEND :

1. Selected output connectors and wire, please refer to Appendix.
2. SPU151A-105~107 is required to use AWG#16/5C/4FT output cable.
3. SPU151A-108~111 is required to use AWG#14/2C/4FT output cable.
4. The regulation and efficiency will be changed by modified output cable.
5. SPU151A-105~111 output cable must with core.

PACKING :

1. Net weight: 720~750g approx.
2. Optional output connectors available contact sales for details.

MECHANICAL DIMENSIONS: (UNIT: mm [inch])



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. No Load Consumption	Hold-Up Time	Protection Mode
	(VDC)	(A)	(W)	(mVp-p)	(%)	(%)	(W)	(ms)	
SPU151A-105	12.0	12.5	150	120	±5	88	0.21	16	Hiccup
SPU151A-106	15.0	10.0	150	150	±5	88	0.21	16	Hiccup
SPU151A-107	19.0	7.89	150	190	±5	89	0.21	16	Hiccup
SPU151A-108	24.0	6.25	150	240	±4	89	0.21	16	Hiccup
SPU151A-109	30.0	5.00	150	300	±3	90	0.21	16	Hiccup
SPU151A-110	36.0	4.16	150	300	±3	90	0.21	16	Hiccup
SPU151A-111	48.0	3.12	150	300	±3	91	0.21	16	Hiccup