

# SPU46 SERIES

## 50W Desk Top Switching Power Supplies For I.T.E.

### Description:

The SPU46 series of AC/DC switching mode power supplies provide 50 Watts of continuous output power. All supplies are UL 94V-1 min compliant. All models meet FCC Part-15 class B and CISPR-22 class B emission Limits and are designed to comply with UL/c-UL (UL 60950-1:2<sup>nd</sup> Edition), TUV/GS (EN 60950-1:2<sup>nd</sup> Edition) and new CE requirements. All units are 100% burned in and tested.



### Features:

- Wide Operating Voltage 90 to 264 VAC, 47 to 63 Hz
- IEC-320-C14 Input Inlet
- Single Output
- Optional Output Connector (See appendix)
- Input Surge Current, Over Voltage And Over Load protection
- Over Voltage Protection (Crowbar Design)
- Energy Star 2.0, Efficiency level V
- Class I
- 2 year warranty

### Safety Approvals :



### Electrical Characteristics:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Vin	Safety Approvals Input Voltage Range		100		240	VAC
	Operate Voltage Range		90		264	VAC
f <sub>in</sub>	Input Frequency		47		63	Hz
P <sub>o</sub>	Output Power Range	V <sub>in</sub> =90 to 264VAC	0		50	W
V <sub>o</sub>	Output Voltage Range		See rating chart			V
I <sub>o</sub>	Output Current Range		See rating chart			A
I <sub>il</sub>	Input Current (Low Line)	I <sub>o</sub> =Full load, V <sub>in</sub> =115VAC			1.1	A
I <sub>ih</sub>	Input Current (High Line)	I <sub>o</sub> =Full load, V <sub>in</sub> =230VAC			0.55	A
I <sub>rl</sub>	Low Line Inrush Current	I <sub>o</sub> =Full load, 25°C, Cool start, V <sub>in</sub> =115VAC		12	23	A
I <sub>rh</sub>	High Line Inrush Current	I <sub>o</sub> =Full load, 25°C, Cool start, V <sub>in</sub> =230VAC		26	45	A
Eff	Efficiency	I <sub>o</sub> =Full Load, V <sub>in</sub> =230VAC	83	85	88	%
REG-i	Line Regulation	I <sub>o</sub> =Full Load		0.5	1	%
REG-o	Load Regulation	V <sub>in</sub> =230VAC		3	15	%
OVP	Over Voltage Protection		112		132	%
OCP	Over Current Protection		110		150	%
T <sub>tr</sub>	Time of Transient Response	I <sub>o</sub> =Full Load to Half Load, V <sub>in</sub> =100VAC			4	mS
T <sub>hold</sub>	Hold-Up Time	I <sub>o</sub> =Full Load, V <sub>in</sub> =110VAC	16			mS
T <sub>s</sub>	Start Up Time	I <sub>o</sub> =Full Load, V <sub>in</sub> =100VAC	0.3	1	2	S
V <sub>p-p</sub>	Ripple & Noise (Peak to Peak)	Full Load, V <sub>in</sub> =90VAC		0.5	1	%
I <sub>lk</sub>	Safety Ground Leakage Current	I <sub>o</sub> =Full Load, V <sub>in</sub> =240VAC		0.5	0.75	mA
TC	Temperature Coefficient	All output	-0.04		0.04	%/°C

### Environmental :

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
T <sub>oper</sub>	Operating Temperature		0	40	70	°C
T <sub>stg</sub>	Storage Temperature		-40		85	°C
H <sub>o</sub>	Operating Humidity		0		95	%
H <sub>r</sub>	Storage Humidity		0		75	%
MTBF	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F		0.1M			Hrs
P <sub>d</sub>	Derate linearly from 100% load at 40°C to 50% load at 70°C					

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Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Vps	Dielectric Withstanding Voltage for Primary to secondary	Primary to secondary	4242			VDC
Vpg	Dielectric Withstanding Voltage for Primary to Ground	Primary to ground	2121			VDC
Ris	Isolation Resistance	Test Voltage=500VDC	50			MΩ
CISPR	EMI requirements for CISPR-22	Vin=220VAC	B			CLASS
FCC	EMI requirements for FCC PART-15	Vin=110VAC	B			CLASS

### Output Voltage And Current Rating Chart (Single Output) :

Model Number	Output Voltage	Output Current	Total <sup>①</sup> Regulation	Maximum Output Power
SPU46-102	5 ~ 6 VDC	8.00Max	5%	40W
SPU46-103	6 ~ 8 VDC	7.50 ~ 5.62 A	5%	45W
SPU46-104	8 ~ 11 VDC	5.62 ~ 4.09 A	4%	45W
SPU46-105	11 ~ 13 VDC	4.09 ~ 3.46 A	3%	45W
SPU46-106	13 ~ 16 VDC	3.46 ~ 2.81 A	3%	45W
SPU46-107	16 ~ 21 VDC	3.12 ~ 2.38 A	3%	50W
SPU46-108	21 ~ 27 VDC	2.38 ~ 1.85 A	2%	50W
SPU46-109	27 ~ 33 VDC	1.85 ~ 1.51 A	2%	50W
SPU46-110	33 ~ 40 VDC	1.51 ~ 1.25 A	2%	50W
SPU46-111	40 ~ 50 VDC	1.25 ~ 1.00 A	2%	50W

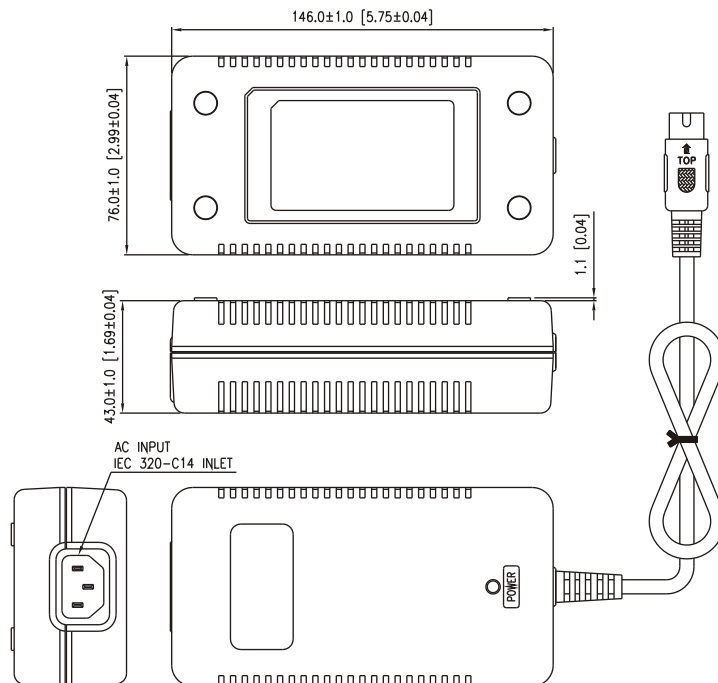
① SPU46-102 is required to use AWG#16 / 5C / 4FT output cable.

SPU46-105 is required to use AWG#18 / 3C + AWG#20 / 2C / 4FT output cable.

SPU46-111 is required to use AWG#18 / 2C / 4FT output cable.

The regulation and efficiency will be changed by modified output cable.

### Mechanical Specifications:



### Note:

1. Dimensions are shown in inches or mm.

2. Weight: 535-560gs approx.

3. Optional output connector:

See page Appendix.