

## 30W Desk Top Switching Power Supplies For I.T.E.

### Description:

The SPU31 series of AC/DC switching mode power supplies provide 30 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)
- 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	Vin=90 to 264VAC	0		30	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, Vin=115VAC			0.8	A
I <sub>ih</sub>	Input Current (High Line)	I <sub>o</sub> =Full load, Vin=230VAC			0.5	A
I <sub>rl</sub>	Low Line Inrush Current	I <sub>o</sub> =Full load, 25°C, Cool start, Vin=115VAC		23	28	A
I <sub>rh</sub>	High Line Inrush Current	I <sub>o</sub> =Full load, 25°C, Cool start, Vin=230VAC		47	55	A
Eff	Efficiency	I <sub>o</sub> =Full Load, Vin=230VAC	73	81	90	%
REG-l	Line Regulation	I <sub>o</sub> =Full Load		0.5	1	%
REG-o	Load Regulation	Vin=230VAC		3	7	%
OCp	Over Current Protection		110		150	%
T <sub>tr</sub>	Time of Transient Response	I <sub>o</sub> =Full Load to Half Load, Vin=100VAC			4	mS
Thold	Hold-Up Time	I <sub>o</sub> =Full Load, Vin=110VAC		12		mS
T <sub>s</sub>	Start Up Time	I <sub>o</sub> =Full Load, Vin=100VAC	0.3	1	2	S
Vp-p	Ripple & Noise (Peak to Peak)	Full Load, Vin=90VAC		0.5	1	%
I <sub>lk</sub>	Safety Ground Leakage Current	I <sub>o</sub> =Full Load, Vin=240VAC		0.5	0.75	mA
TC	Temperature Coefficient	All output	-0.04		0.04	%/°C
P <sub>no</sub>	No-Load Power Consumption	No load, Vin=240VAC	0		0.3	W

### 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		95	%
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					

# SPU31 SERIES

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### Safety Specifications:

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			M $\Omega$
CISPR	EMI requirements for CISPR-22	Vin=220VAC	B			CLASS
FCC	EMI requirements for FCC PART-15	Vin=110VAC	B			CLASS

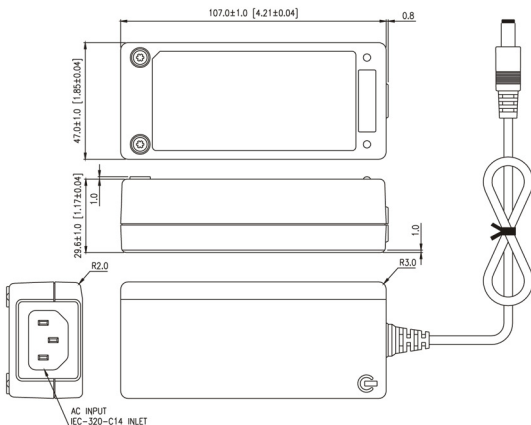
### Output Voltage And Current Rating Chart ( Single Output ) :

Model Number	Output Voltage	Output Current	Total <sup>①</sup> Regulation	Maximum Output Power
SPU31-102	5 ~ 6 VDC	4.00 ~ 3.33 A	5%	20W
SPU31-103	6 ~ 8 VDC	4.16 ~ 3.12 A	5%	25W
SPU31-104	8 ~ 11 VDC	3.75 ~ 2.72 A	5%	30W
SPU31-105	11 ~ 13 VDC	2.72 ~ 2.30 A	5%	30W
SPU31-106	13 ~ 16 VDC	2.30 ~ 1.87 A	5%	30W
SPU31-107	16 ~ 21 VDC	1.87 ~ 1.42 A	5%	30W
SPU31-108	21 ~ 27 VDC	1.42 ~ 1.11 A	3%	30W
SPU31-109	27 ~ 33 VDC	1.11 ~ 0.90 A	3%	30W
SPU31-110	33 ~ 40 VDC	0.90 ~ 0.75 A	3%	30W
SPU31-111	40 ~ 50 VDC	0.75 ~ 0.60 A	3%	30W

SPU31-106 had been approved by KC.

- ① SPU31-101~105 are required to use AWG#16 / 4FT output cable.
- SPU31-106~108 are required to use AWG#18 / 4FT output cable.
- SPU31-109~111 are required to use AWG#18 / 6FT output cable
- The regulation will be changed by modified output cable

### Mechanical Specifications :



Note:

1. Dimensions are shown in mm.
2. Weight: 265~280gs approx.
3. Optional output connector: See page Appendix.

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