

# SPU20B SERIES

## 20W Desk Top Switching Power Supplies For I.T.E.

### Description:

The SPU20B series of AC/DC switching mode power supplies provide 20 Watts of continuous output power and is well-suited for a variety of applications. 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-C8 Input Inlet
- Optional Output Connector (See appendix)
- Single Output
- Splash proof
- Class II
- Energy Star 2.0, Efficiency level V
- Approved as Limited Power Source (LPS).
- 3 year warranty

### Safety Approvals:



Agree to apply for the PSE if order on hand

### 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		20	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			0.4	A
I <sub>ih</sub>	Input Current (High Line)	I <sub>o</sub> =Full load, V <sub>in</sub> =230VAC			0.25	A
I <sub>rl</sub>	Low Line Inrush Current	I <sub>o</sub> =Full load, 25°C, Cool start, V <sub>in</sub> =115VAC		16	20	A
I <sub>rh</sub>	High Line Inrush Current	I <sub>o</sub> =Full load, 25°C, Cool start, V <sub>in</sub> =230VAC		35	40	A
Eff	Efficiency	I <sub>o</sub> =Full Load, V <sub>in</sub> =230VAC	75	85	95	%
REG-i	Line Regulation	I <sub>o</sub> =Full Load		0.5	1	%
REG-o	Load Regulation	V <sub>in</sub> =230VAC	1	3	5	%
OVP	Over Voltage Protection		Nil			%
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	12	14	16	mS
T <sub>s</sub>	Start Up Time	I <sub>o</sub> =Full Load, V <sub>in</sub> =100VAC		0.25	0.5	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
P <sub>no</sub>	No-Load Power Consumption	No load, V <sub>in</sub> =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		75	%
MTBF	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F		0.3M			Hrs
P <sub>d</sub>	Derate linearly from 100% load at 40°C to 50% load at 70°C					

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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
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

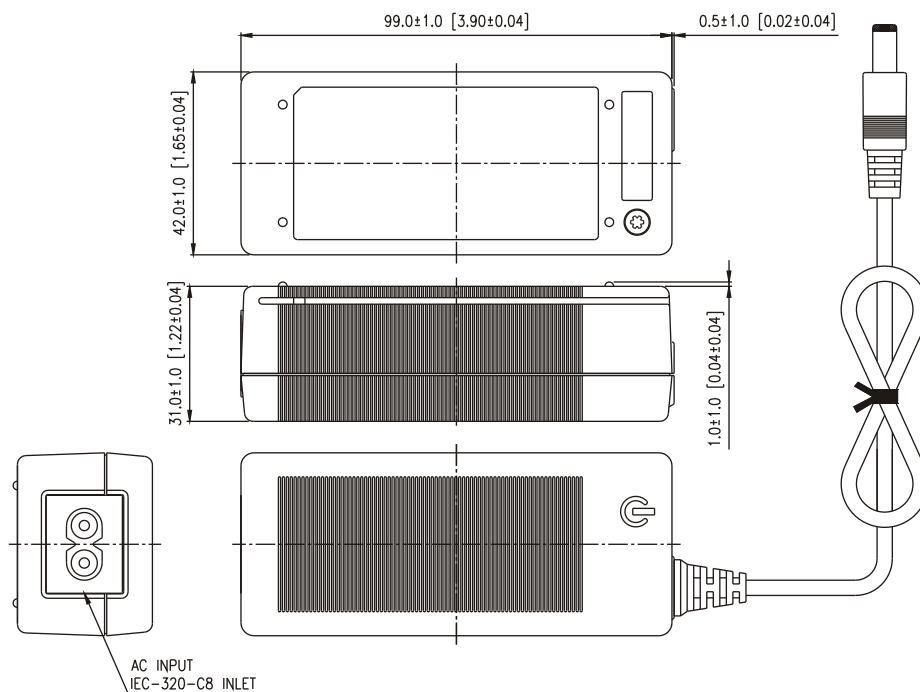
### Output Voltage And Current Rating Chart ( Single Output ) :

Model Number	Output Voltage	Output Current	Total <sup>①</sup> Regulation	Max. Output Power
SPU20B-102	5 ~ 6 VDC	3.00 ~ 2.50 A	5%	15W
SPU20B-105	11 ~ 13 VDC	1.81 ~ 1.53 A	4%	20W
SPU20B-106	13 ~ 16 VDC	1.53 ~ 1.25 A	4%	20W
SPU20B-108	21 ~ 27 VDC	0.95 ~ 0.74 A	3%	20W
SPU20B-109	27 ~ 33 VDC	0.74 ~ 0.60 A	3%	20W
SPU20B-111	40 ~ 48 VDC	0.50 ~ 0.41 A	3%	20W

The output voltage under 15V had been approved by TUV/PSE.

- ① This series is required to use AWG#18/4FT output cable.  
The regulation will be changed by modified output cable.

### Mechanical Specifications :



Note:

1. Dimensions are shown in mm.
2. Weight: 170gs approx.
3. Optional output connector: See page Appendix.