

### 20W Desk Top Switching Power Supplies For Industrial Equipment

#### Description:

The IPU20A 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), TUV/GS (EN 60950-1) and new CE requirements. All units are 100% burned in and tested.



#### Features:

- Wide Input Voltage 90 to 264 VAC, 47 to 63 Hz
- IEC-320-C6 Input Inlet
- Optional Output Connector (See appendix)
- Single Output
- Class I
- Energy Star 2.0, Efficiency level V
- Approved as Limited Power Source (LPS).
- Operating temperature -20~70°C
- 3 year warranty

#### Safety Approvals:



#### Electrical Characteristics:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V <sub>in</sub>	Input Voltage	Operating Voltage	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		12	15	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	30	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>rn</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		-20		70	°C
T <sub>stg</sub>	Storage Temperature		-40		85	°C
H <sub>r</sub>	Relative Humidity		5		95	%
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					

# IPU20A 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 Ω
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 Regulation <sup>①</sup>	Maximum Output Power
IPU20A-102	5 ~ 6 VDC	3.00 ~ 2.50 A	5%	15W
IPU20A-105	11 ~ 13 VDC	1.81 ~ 1.53 A	4%	20W
IPU20A-106	13 ~ 16 VDC	1.53 ~ 1.25 A	4%	20W
IPU20A-108	21 ~ 27 VDC	0.95 ~ 0.74 A	3%	20W
IPU20A-109	27 ~ 33 VDC	0.74 ~ 0.60 A	3%	20W
IPU20A-111	40 ~ 48 VDC	0.50 ~ 0.41 A	3%	20W

① The total regulation on each model 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.

