

TPIPU20B SERIES

20W Desk Top Switching Power Supplies For Industrial Equipment

Description:

The 20B 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-C8 Input Inlet
- Optional Output Connector (See appendix)
- Single Output
- Splash proof
- Class II
- CEC and Energy Star compliance
- 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 |
|-------|-------------------------------|--|------------------|------|------|------|
| Vin | Input Voltage | Operating Voltage | 90 | | 264 | VAC |
| fin | Input Frequency | | 47 | | 63 | Hz |
| Po | Output Power Range | Vin=90 to 264VAC | 0 | | 20 | W |
| Vo | Output Voltage Range | | See rating chart | | | V |
| Io | Output Current Range | | See rating chart | | | A |
| Iil | Input Current (Low Line) | Io=Full load, Vin=115VAC | | | 0.4 | A |
| Iih | Input Current (High Line) | Io=Full load, Vin=230VAC | | | 0.25 | A |
| Irl | Low Line Inrush Current | Io=Full load, 25°C, Cool start, Vin=115VAC | | 12 | 15 | A |
| Irh | High Line Inrush Current | Io=Full load, 25°C, Cool start, Vin=230VAC | | 26 | 30 | A |
| Eff | Efficiency | Io=Full Load, Vin=230VAC | 75 | 85 | 95 | % |
| REG-i | Line Regulation | Io=Full Load | | 0.5 | 1 | % |
| REG-o | Load Regulation | Vin=230VAC | 1 | 3 | 5 | % |
| OVP | Over Voltage Protection | | Nil | | | % |
| OCP | Over Current Protection | | 110 | | 150 | % |
| Ttr | Time of Transient Response | Io=Full Load to Half Load, Vin=100VAC | | | 4 | mS |
| Thold | Hold-Up Time | Io=Full Load, Vin=110VAC | 12 | 14 | 16 | mS |
| Ts | Start Up Time | Io=Full Load, Vin=100VAC | | 0.25 | 0.5 | S |
| Vrn | Ripple & Noise (Peak to Peak) | Full Load, Vin=90VAC | | 0.5 | 1 | % |
| Ilk | Safety Ground Leakage Current | Io=Full Load, Vin=240VAC | | 0.15 | 0.25 | mA |
| TC | Temperature Coefficient | All output | -0.04 | | 0.04 | %/°C |
| Pno | No-Load Power Consumption | No load, Vin=240VAC | 0 | 0.4 | 0.5 | W |

Environmental :

| Sym. | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-------|---|-----------------|------|------|------|------|
| Toper | Operating Temperature | | -20 | | 70 | °C |
| Tstg | Storage Temperature | | -40 | | 85 | °C |
| Hr | Relative Humidity | | 5 | | 95 | % |
| MTBF | Operating Temperature at 25°C, Calculated per MIL-HDBK-217F | | 0.3M | | | Hrs |
| Pd | 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 |
|-----------------|--|----------------------|------|------|------|-------|
| V _{ps} | Dielectric Withstanding Voltage for Primary to secondary | Primary to secondary | 4242 | | | VDC |
| R _{is} | 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 Regulation ^① | Max. Output Power |
|----------------|----------------|----------------|-------------------------------|-------------------|
| * TPIPU20B-102 | 5 ~ 6 VDC | 3.00 ~ 2.50 A | 5% | 15W |
| * TPIPU20B-105 | 11 ~ 13 VDC | 1.81 ~ 1.53 A | 4% | 20W |
| * TPIPU20B-106 | 13 ~ 16 VDC | 1.53 ~ 1.25 A | 4% | 20W |
| * TPIPU20B-108 | 21 ~ 27 VDC | 0.95 ~ 0.74 A | 3% | 20W |
| * TPIPU20B-109 | 27 ~ 33 VDC | 0.74 ~ 0.60 A | 3% | 20W |
| * TPIPU20B-111 | 40 ~ 48 VDC | 0.50 ~ 0.41 A | 3% | 20W |

* The output voltage under 30V had been approved by TUV/PSE.

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.

