

TWRI SERIES: RF/WIRELESS POWER SUPPLY

Hot-Swap 2U, Up to 9,000 Watts Output Power



FEATURES

- 85% Efficiency
- Power Factor Correction to EN61000-3-2
- 10.6W/In³ Power Density
- Hot-Swap, N+1 Redundant Operation
- 2U 19-inch or 23-inch Rack Mounting
- 26.5-33.5V Output Adjustment Range
- Low Cost
- 28 to 32VDC Rated Output
- 2250W Module Output Power
- Up to 9000W Total Power, Non-Redundant
- Up to 6750W Total Power, 3+1 Redundant
- Integral Isolation Diode
- Output Current Limiting
- Inrush Current Limiting
- Remote Output Adjustment

TWO-YEAR WARRANTY

STANDARD, PRE-SET MODULES

| Max. Watts | Rated Output * Voltage /Current | Adjustment Range | Input Voltage Range | Minimum Load | Line/Load Regulation | Model Number |
|------------|------------------------------------|---------------------|------------------------|-----------------|-------------------------|-----------------|
| 2250 | 28V 80.4A | 26.5-33.5VDC | 170 - 264VAC | 0A | 1% | TWRI6000 |
| 2250 | 29V 77.6A | 26.5-33.5VDC | 170 - 264VAC | 0A | 1% | TWRI6001 |
| 2250 | 30V 75.0A | 26.5-33.5VDC | 170 - 264VAC | 0A | 1% | TWRI6002 |
| 2250 | 31V 72.6A | 26.5-33.5VDC | 170 - 264VAC | 0A | 1% | TWRI6003 |
| 2250 | 32V 70.3A | 26.5-33.5VDC | 170 - 264VAC | 0A | 1% | TWRI6004 |

*These are the standard, factory-set output voltages. Other voltages can be set. Please contact factory.

ORDERING GUIDE

The hot-swap modules and the mating rack-mounts are separate items and must be ordered separately.

HOT-SWAP MODULES: Order quantity using model number from table.

SYSTEM RACKS: Order RRS2U-19 for 3 modules or RRS2U-23 for 4 modules.

| MATING-CONNECTOR KIT |
|--------------------------------|
| Order Kit No. 775-1441-0000 |

SAFETY CERTIFICATIONS

| | |
|--------|------------------|
| AGENCY | STANDARD |
| UL | UL60950 |
| CUL | CSA22.2 No.60950 |
| DEMKO | EN60950 |

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TWRI MODULE SPECIFICATIONS

Typical at Nominal 230VAC Line, Full Load and 25°C Unless Otherwise Noted.

OUTPUT SPECIFICATIONS

| | |
|------------------------------------|-------------------------------------|
| Total Output Power, Max | 2250 Watts |
| Voltage Adjustment Range | 26.5-33.5VDC |
| Total Regulation ¹ | 1.0% |
| Ripple & Noise, Pk-Pk ² | 250mV |
| Holdup Time ³ | 20ms |
| Dynamic Response ⁴ | 1ms |
| Temperature Coefficient | 0.05%/°C |
| Minimum Load | 0A |
| Overload Protection | Constant Current Limiting |
| Overvoltage Protection | Latched Shutdown |
| Active Current Share ⁵ | 10% Differential From Rated Current |
| Remote Sense | Up to 0.5V Per Wire |

INPUT SPECIFICATIONS

| | |
|---------------------------------|---|
| Input Voltage Range | 170-264VAC |
| Power Factor | 0.98 |
| Input Frequency | 47-63Hz |
| Inrush Limiting | 25A Peak |
| Input Current, Full Load | 11.8A@230VAC |
| Input EMI Filter, Conducted | EN55022 Curve B FCC20780 pt. 15J Curve B |
| Harmonic Distortion | EN61000-3-2 |
| Input Immunity, Conducted | |
| Fast Transients, Line-Line | ±2kV (EN61000-4-4 Level 3) |
| Surges, Line-Line | ±1kV (EN61000-4-5 Level 2) |
| Surges, Line-Ground | ±2kV (EN61000-4-5 Level 3) |
| Input Protection, Internal Fuse | 20A |

GENERAL SPECIFICATIONS

| | |
|---------------------------------------|------------------------------------|
| Efficiency | 85% at Full Load |
| Switching Frequency | 70kHz Nominal |
| Overtemperature Protection | Power Shutdown |
| Isolation, Class I ⁶ , min | 3000VAC Input - Output |
| | 1500VAC Input - Ground |
| | 50VDC Output - Ground |
| Safety Standards | EN60950, UL60950, CSA22.2 No.60950 |

ENVIRONMENTAL SPECIFICATIONS

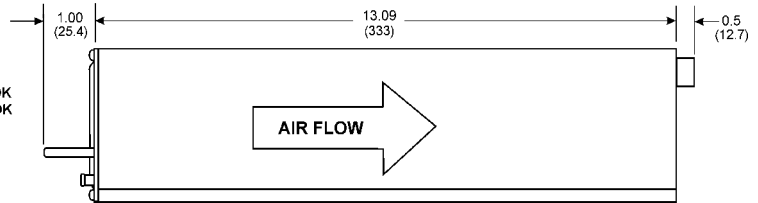
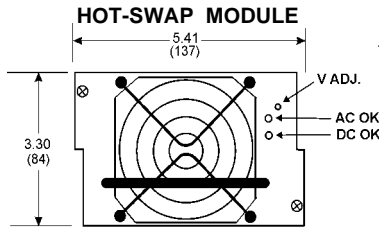
| | |
|-----------------------|---------------------------|
| Operating Temperature | 0°C to 70°C Ambient |
| Derating | 2.5% / °C, 50°C to 70°C |
| Storage Temperature | -40°C to +85°C |
| Cooling | Integral Ball Bearing Fan |

PHYSICAL SPECIFICATIONS

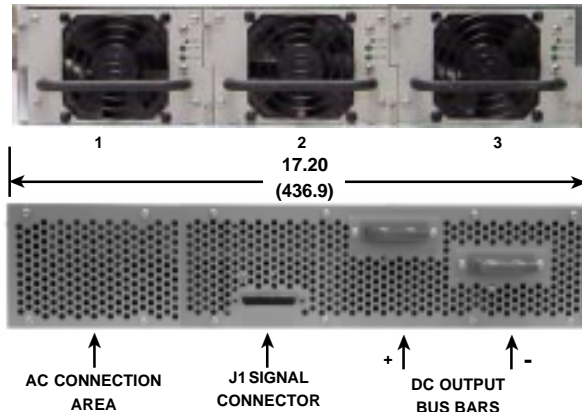
| | |
|-------------------------|---|
| Case Material, Module | Aluminum |
| Rack Mount | Steel |
| Finish, Rack Mount | Powder Coat Gray |
| Dimensions, Inches (mm) | |
| Module | 3.3H x 4.9W x 13.1D (84 x 124 x 333) |
| 19" Rack | 3.50H x 19.00W x 19.88D (89 x 483 x 505) |
| 23" Rack | 3.50H x 23.00W x 19.88D (89 x 584 x 505) |

NOTES:

- At remote sense point over full line range and 0-100% load change.
- 20MHz bandwidth. Measured with 0.1µF ceramic and 10µF tantalum capacitors in parallel across the output.
- Full output power at nominal AC line.
- <5% deviation recovering to within 1% for 50% load change.
- Using single wire current share with remote sense connected.
- Input-output isolation figure is for isolation components only. 100% production Hipot tested.



FRONT VIEW, 19" RACK



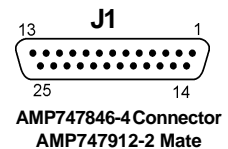
FRONT VIEW, 23" RACK



| J1 SIGNAL CONNECTOR | | | |
|---------------------|--------------------|-----|-----------------|
| PIN | FUNCTION | PIN | FUNCTION |
| 1 | Inhibit | 14 | AC Good-1 |
| 2 | Thermal Alarm-1 | 15 | DC Good-1 |
| 3 | Current Monitor-1 | 16 | AC Good-2 |
| 4 | Thermal Alarm-2 | 17 | DC Good-2 |
| 5 | Current Monitor-2 | 18 | AC Good-3 |
| 6 | Thermal Alarm-3 | 19 | DC Good-3 |
| 7 | Current Monitor-3 | 20 | AC Good-4* |
| 8 | Thermal Alarm-4* | 21 | DC Good-4* |
| 9 | Current Monitor-4* | 22 | N.C. |
| 10 | Current Share | 23 | -Sense |
| 11 | + Sense | 24 | Remote Adjust-1 |
| 12 | Remote Adjust-2 | 25 | Remote Adjust-3 |
| 13 | Remote Adjust-4* | | |

*These pins are N.C. on 19" rack.

NOTE: AC Connections are made to a terminal block behind the rear grille. There is a separate connection to each module.



ALL DIMENSIONS IN INCHES mm.

All specifications subject to change without notice.