

TCP2U-2500

2500 Watt Front-End Power Supply

TECTROL 2500 WATT 24/48 VOLT 2U FRONT-END POWER SUPPLY



The TCP2U-2500 provides up to 2500 Watts of highly reliable DC power in a compact 2U module that is designed to deliver reliable bulk power to distributed power architecture applications that require high power density.

The TCP2U is available in industry standard 24 and 48 volt models and can be modified or configured to supply different power output levels as required.

A compact form factor allows integration of 2 parallel or redundant TCP2U modules in TECTROL's TCP2R configurable 2U Power System (or any standard 84 HP width 19" 2U rack).

Hot swap capability is implemented through the use of an industry standard connector that combines both AC power and DC output connections in a single "blind mate" configuration.

Optional digital interfaces such as I²C can be configured on the TCP2U to meet application-specific needs.

FEATURES

- True 2500 Watt output power (no derating)
- High line input
- Low 2U profile provides high power density
- Full hot swap capability
- Non-redundant parallel operation or N+1 configuration
- High efficiency
- Single wire active current share
- Integral Isolation (ORing) Diodes
- I²C EEPROM Bus Chip option
- Strenuously HALT tested to ensure maximum reliability and long life

AGENCY COMPLIANCE

- UL/cUL Approval
- TUV Approval
- CE Mark (to the LVD requirements of EN 60950)
- Harmonic Compliance to EN61000-3-2 (Class A & D Limits)

EMISSIONS AND IMMUNITIES

- EN 55022 Class B Emissions
- EN 61000-3-2 Class D Harmonic Compliance
- EN 61000-4 Compliance

MAX OUTPUT POWER	OUTPUT (Volts)	OUTPUT (Amps)	AC INPUT (Volts)	MODEL NUMBER
2500 W	48	52	175 to 264	TCP2U-2500-48
2500 W	24	83	175 to 264	TCP2U-2500-24



TECTROL[®]

Total Power Solutions[®]

TCP2U-2500

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TECHNICAL SPECIFICATION

INPUT SPECIFICATION

High Line Input	175 to 264 Vrms, 50/60 Hz
AC Line Input	20.3 Arms max @ 175 VAC input voltage
Line Inrush Current	< 50 Apk @ 220 VAC, half cycle, cold start (25 °C)
Power Factor	> 0.97 (typically 0.99)
Harmonic Compliance	Complies with IEC 1000-4-7 & EN 61000-3-2 Class D Limits
Leakage Current	3.0 mArms per module
Voltage Dip/Interruptions	Complies with IEC/EN 61000-4-11
Transients & Surges	Complies with IEC/EN 61000-4-5
Efficiency	> 85% full load, nominal line (including ORing diodes)

OUTPUT SPECIFICATION

Factory Set Output Voltage	48 ± 0.15 V @ 50% FL
Static Voltage Regulation	46.3 to 49.7 (line, load regulation, temperature)
Ripple & Noise (PARD)	250 mV pp for 48 V; 500 mV pp for 24 V
Output Current	48 V nom @ 52 A; 24 V nom @ 104 A
Module Power	2500 W continuous operation @ 55 °C
Current Share	Single wire active current share
Parallel Operation	Parallel non-redundant or N+1
Hot Swap Capability	Fully hot swappable, blind mate connector
Remote Sense Compensation	For ORing diodes & connector drop
Transient Response	5% deviation from nominal set voltage, for 10% - 90% step load change. Recovery to within 1% within 300 mS.

PROTECTION

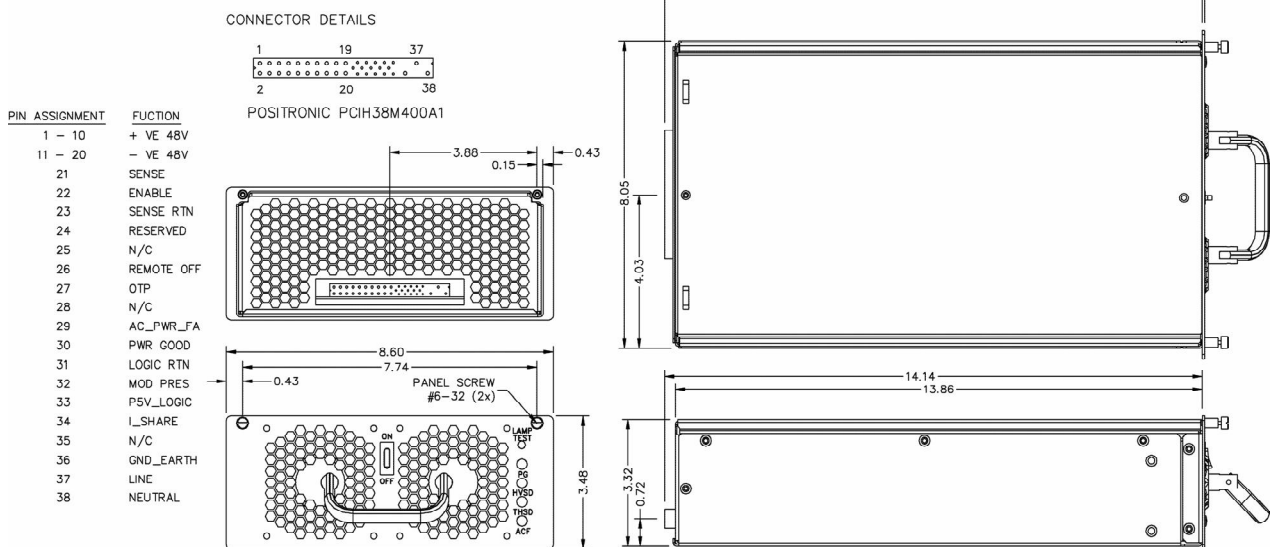
Overload Protection	Inception point 125%. Unit protected against a permanent short circuit (I _{SC} limited to 110% I _{max}).
Over Voltage Protection	60 V max guaranteed shutdown. Reset by recycling of the incoming AC supply.
Over Temperature Protection	Shutdown in the event of operation in excessive ambient temperature or blocked/failed airflow (self recovery following temperature reduction).
Signals	I/O Signals: AC Fail; DC Good; Over Temp Module Present; Remote Latch-Off.
LED Indicators	AC Fail; DC Good; OVP Shutdown; Thermal Shutdown.

MECHANICAL FORMAT

Input/Output Connector	Positronic PCIH38M400A1 connector; AC input and DC Output in to a single connector for true hot swap capability
Mechanical Outline	3.34" (H) x 8.09" (W) x 14.14" (L) 84.84 mm x 205.49 mm x 359.16 mm

ENVIRONMENTAL

Temperature Range	Operational: 0 ° to 55 °C, FL no derating
Cooling / Air Flow	Integral high performance fans. Airflow direction: inlet at fan face; exhaust at connector face.



Tectrol Inc.
39 Kodiak Crescent, Toronto, Canada M3J 3E5
Tel: + 1 (416) 630 8108 Fax: + 1 (416) 638 0553
sales@tectrol.com www.tectrol.com

European Office
Tel: + 44 (208) 399 6824
Fax: + 44 (208) 390 7355
eurosales@tectrol.com