



FEATURES

- 90-264 VAC Input
- Built-in 24V Lead-Acid Battery Charger
- UPS-Ready, Power Management Software Included
- Active PFC meets EN 61000-3-2 Standard
- CB Test Report per IEC/EN 60601-1 3rd Edition
- Medically Approved to UL ES60601-1 & CSA 60601-1:2008



INPUT SPECIFICATIONS

Input Voltage Range	90~264 VAC
Input Frequency	47~63Hz
Input Current	10A rms max. @ 100 VAC, 60Hz
	5A rms max. @ 230 VAC, 50Hz
Inrush Current	23.6A @ 115 VAC, 53A @ 230
	VAC, at 25°C cold start
Earth Leakage Current	300µA max. @ 264 VAC, 63Hz

OUTPUT SPECIFICATIONS

Output Power Ratings	See rating chart
Load Regulation	See rating chart
Line Regulation	±1% max. @ full load
Ripple & Noise*	See rating chart
Hold-up Time	17ms min. @ 115/230 VAC
Switching Frequency	70 KHz ±10 KHz
Overvoltage Protection	3.76~4.3V for +3.3V
	5.74~7.0V for +5V
	13.4~15.6V for +12V
Overcurrent Protection	32A max. for +3.3V
	32A max. for +5V
	24A max. for +12V
Short-Circuit Protection	All outputs protected to output rail shorted to return conditions
Thermal Protection	Shutdown and latch off
Backup Battery (Not Included) ...	24V lead-acid type
Charge Current	Constant voltage and current charge 2.5A max.

* Measured with 20MHz bandwidth at rated line voltage and output load ranges, with a 47µF tantalum capacitor in parallel with a 0.1µF ceramic capacitor in parallel across the output.

GENERAL SPECIFICATIONS

Efficiency	78% min. @ full load
Power Factor	>0.9 typ. @ full load
Operating Temperature	0°C to +70°C
Derating	Derate from 100% @ +50°C linearly to 50% @ +70°C
Storage Temperature	-20°C to +85°C
Relative Humidity	10% to 95% non-condensing
Withstand Voltage	4,000 VAC from input to output
	1,500 VAC from input to ground
MTBF	194,206 hours minimum at full load & 25°C ambient, calculated per Bellcore/Telcordia SR-332

STANDARDS & COMPLIANCES

IEC/EN 60601-1-2	EMC & Immunity Performance
EN 55011	Class B conducted, Class A radiated
FCC / VCCI	Class B conducted, Class A radiated
EN 61000-3-2	Harmonic distortion, Class D
EN 61000-3-3	Line flicker
EN 61000-4-2	ESD, ±8 KV air and ±6 KV contact
EN 61000-4-3	Radiated immunity, 3 V/m
EN 61000-4-4	Fast transient/burst, ±2 KV
EN 61000-4-5	Surge, ±1 KV diff., ±2 KV com.
EN 61000-4-6	Conducted immunity, 3 Vrms
EN 61000-4-8	Magnetic field immunity, 3 A/m
EN 61000-4-11	Voltage dip immunity, 30% reduction for 500ms, 60% reduction for 100ms and >95% reduction for 10ms
Safety Standards	UL ES60601-1, CSA 60601-1:2008, IEC/EN 60601-1 3rd edition
Agency Approvals	UL, cUL, CB (report)
Other Compliance	RoHS

OUTPUT VOLTAGE & CURRENT RATING CHART				
Ouput Voltage	Minimum Load	*Maximum Load	Load Regulation	Ripple & Noise VP-P Max.
+3.3V	0.5A	24A	±5%	50mV
+5V	0.3A	24A	±5%	50mV
+12V1	1A	16A	±5%	120mV
+12V2	1A	16A	±5%	120mV
+12V3	1A	16A	±5%	120mV
+12V4	1A	16A	±5%	120mV
-12V	0A	0.5A	±10%	120mV
+5Vsb	0A	3A	±5%	50mV

* The overall output power with battery charger is 650W maximum.
 * The total output power for +3.3V & +5V is 150W maximum .
 * The total output power for +12V1, +12V2, +12V3 & +12V4 is 600W maximum.
 * The total output power for +3.3V, +5V, and +12V is 600W.

TMPC-650U

UPS-Ready Medical Grade 650W ATX Power Supply

MECHANICAL SPECIFICATIONS

