TRUMPower

TMC200 Series

200 Watts AC/DC Medical & ITE Power Supplies

FEATURES

- 90~264 VAC Input with Active PFC
- 3" x 5" x 1.5" Compact Size
- 0.98 Power Factor
- Low Leakage Current
- Efficiency up to 92%

INPUT SPECIFICATIONS

Input Voltage Range	90~264 VAC
Input Frequency	47~63Hz
Input Current	2.5A rms @ 115 VAC 1.25A rms @ 230 VAC
Inrush Current	20A @ 115 VAC or 40A @ 230 VAC, at 25°C cold start
Earth Leakage Current	220µA max. @ 264 VAC, 63Hz
Touch Current	100µA max. @ 264 VAC, 63Hz

OUTPUT SPECIFICATIONS

Output Power Ratings	See table
Output Voltage	See table
Tolerance	±2%
Ripple and Noise*	1% peak to peak max.
Overvoltage Protection	Set at 112-140% of its nominal output voltage
Overcurrent Protection	Protected to short-circuit conditions
Temperature Coefficient	±0.04%/°C max.
Transient Response	Max. excursion of 4% or better on all models, recovering to 1% of final value within 500µs after a 25% step load change
Fan Power	12V at 250mA max.

* Peak to peak with 20MHz bandwidth and 10µF tantalum capacitor in parallel with a 0.1µF ceramic capacitor at rated line voltage and load ranges

GENERAL SPECIFICATIONS

Switching Frequency	100KHz typical
Power Factor	0.98 typical, with active PFC
Efficiency	87% min. on all models
Hold-up Time	10ms at 110 VAC
Line Regulation	±0.5% max. at full load
Operating Temperature	0°C to +70°C
Derating	Derate from 100% @ +50°C linearly to 50% @ +70°C
Storage Temperature	-40°C to +85°C
Relative Humidity	5% to 95% non-condensing
Withstand Voltage	4000 VAC from input to output 1500 VAC from input to ground 500 VAC from output to ground
MTBF	350K hours minimum at full load, 25°C ambient, calculated per MIL-HDBK-217F

MODELS LIST

Product No. [1]	Output				
	Voltage	@ Convection		@ 5.3 CFM Forced Air	
		Max. Current	Max. Power [2]	Max. Current	Max. Power [2]
TMC200-S12	12V	12.50A	150W	16.67A	200W
TMC200-S15	15V	10.00A	150W	13.34A	200W
TMC200-S18	18V	8.34A	150W	11.12A	200W
TMC200-S24	24V	6.25A	150W	8.34A	200W
TMC200-S28	28V	5.36A	150W	7.15A	200W
TMC200-S36	36V	4.17A	150W	5.56A	200W
TMC200-S48	48V	3.13A	150W	4.17A	200W

NOTES:

1. U-bracket format is standard. Add suffix "C" for enclosed format with cooling fan, e.g. TMC200-S12C.
2. 150W without moving air or 200W with 5.3 CFM forced air provided by user for U-bracket format, 200W for "C" version with cover-and-fan assembly. The adequacy of cooling air is judged by the measured core temperature of transformer T1 below 75°C at 25°C ambient, or below 100°C at 50°C ambient.

STANDARDS & COMPLIANCES

EN55011, EN55022	Class B conducted and radiated
FCC	Class B conducted and radiated
VCCI	Class B conducted and radiated
EN61000-3-2	Harmonic distortion, Class A & D
EN61000-3-3	Line flicker
EN61000-4-2	ESD, ±8 KV air and ±6 KV contact
EN61000-4-3	Radiated immunity, 3V/m
EN61000-4-4	Fast transient/burst, ±2 KV
EN61000-4-5	Surge, ±1 KV diff., ±2 KV com.
EN61000-4-6	Conducted immunity, 3 Vrms
EN61000-4-8	Magnetic field immunity, 3A/m
EN61000-4-11	Voltage dips immunity, 30% reduction for 500ms, 60% reduction for 100ms, >95% reduction for 10ms
Safety Standards	UL 60601-1, EN 60601-1, CSA C22.2 No. 601.1, UL 60950-1, EN 60950-1, CSA C22.2 No. 60950-1
Agency Approvals	UL, cUL, TUV, CB, CE
Other Compliance	RoHS

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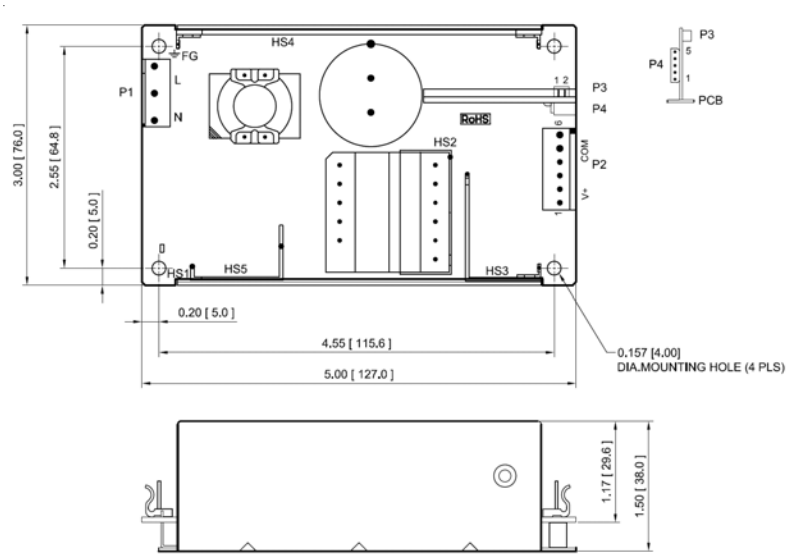
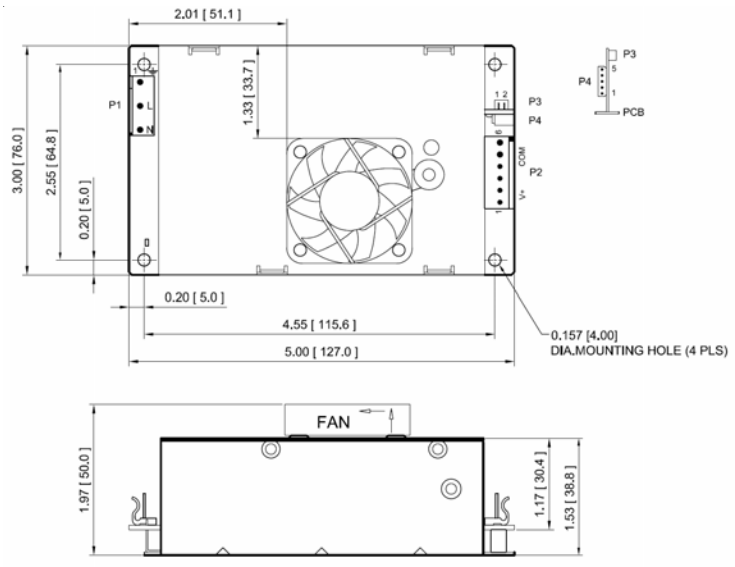
MECHANICAL SPECIFICATIONS

U-Bracket Format



Enclosed Format



CONNECTORS & SIGNALS

CONNECTOR	PIN	FUNCTION
P1	1	AC GROUND
	2	VOID
	3	LIVE
	4	VOID
	5	NEUTRAL
P2	1	OUTPUT +V
	2	
	3	
	4	COMMON RETURN
	5	
	6	
P3	1	FAN +12V
	2	COMMON RETURN
P4	1	-SENSE
	2	+SENSE
	3	PFD
	4	INHIBIT
	5	COMMON RETURN

CONTROL SIGNALS	
PFD	TTL high for normal operation, low upon loss of input power, turn-on delay time 100-1000ms, turn-off delay time 1ms minimum
INHIBIT	TTL high to turn off output

NOTES:

1. Dimensions: inches [mm]
2. Tolerance: 0.02 [0.5] maximum
3. Input connector P1: Molex header 09-65-2058 or equivalent, mating with Molex housing 09-50-1051 or equivalent.
4. Outpur connector P2: Molex header 09-65-2068 or equivalent, mating with Molex housing 09-50-1061 or equivalent.
5. Fan connectors P3: Molex header 53048-0210 or equivalent, mating with Molex housing 51021-0200 or equivalent.
6. Connector P4: Molex header 22-05-7055 or equivalent, matiing with Molex housing 50-37-5053 or equivalent.
7. Weight: 390g (0.86 lbs.) approx. for U-bracket form, 440g (0.97 lbs.) approx. for enclosed form.
8. Fixing of units to end equipment is through standoffs and the four mounting holes in PCB.
9. Ground tab is 0.25 [6.35] × 0.032 [0.8] fast-on connector.

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