

# GNT400

Front End Series 400W AC/DC

Universal Input Medical & ITE Power Supply



2 Year Warranty

- Medical (EN60601-1) and ITE (EN60950) Certifications
- Compact 4" x 7" x 1.5" U Channel (1U compatible)
- 9.5 W/in<sup>3</sup>
- 100-240 VAC Input with Active PFC
- 12 to 48 V DC Output at 400W (300W convection rating)
- 5 Vdc, 100 mA Standby Output
- 12 Vdc Fan Output
- Approved to UL, CSA, and EN/IEC Standards
- Less than 100µA leakage
- Compliance to EN55011/22 Conducted Noise, Class B
- RoHS Compliant – Category 6



CONDOR™

International Safety Standard Approvals



## Specifications

All Specifications are typical at nominal input, full load at 25°C unless otherwise stated.

AC Input	100-240VAC, 50/60 Hz, 1Ø. 90-270VAC, 45-65 Hz max	Turn On Time	500 ms max
Input Current	120VAC: 4.2A. 230VAC: 2.1A	Hold-up Time	20 ms at 400W
Inrush Current	Active Circuit, 37A max. peak	Over/Undershoot	3.5% max
Input Fuses	F1 and F2, 6.3A/250V for line and neutral	Overload Protection	Cycling type, 470W typical
Power Factor	0.99 typical, 0.96 minimum	Overvoltage Protection	See chart
Earth Leakage Current	100µA at 120VAC, 60 Hz Normal 400µA at 264VAC, 50 Hz, SFC	Ripple and Noise	1% pk-pk max., 20MHz BW 0.1µF and 10 µF caps on probe
Output Power	400W continuous with 200lfm airflow See chart for convection ratings	ITE Safety Standards	CSA/EN/IEC/UL 60950-1
Peak Output Power	450W for 1 minute, 10% duty cycle	Medical Safety Standards	EN/IEC/UL 60601-1, CSA22.2 No. 601-1
Output Voltage	See chart	Thermal Considerations	Keeping the following components below these temp. indicates sufficient cooling: T5: 90°C max., T1: 100°C max
Voltage Adjustability	±5% minimum	Switching Frequency	Output: 170kHz ±8kHz, PFC: 140kHz ±8kHz
Minimum Load	Not required	MTBF	300K hours per Telcordia
Total Regulation	See chart	Overtemperature Protection	Automatic
Transient Response	500µs to 1%, 50% load step, ΔI/Δt < 0.2A/µs Maximum voltage deviation is 3.5%	Efficiency	91% typical at 230VAC 88% typical at 120VAC
Remote Sense	Compensates for up to 500mV voltage drop	Temperature Coefficient	0.03% per °C typical on all units

## Model Number Key

GNT 4 XX X X X G

- RoHS Compliant
- Cover Options: Blank = Standard Mini Cover, "E" = Cover with fan on the end, "T" = Cover with fan on top
- Output Connections: "B" = Busbars, "T" = Phoenix P/N 1731721
- Input Connections: "A" = EBY P/N 5002-03-N-12, "B" = Phoenix P/N 1732034, "C" = AMP P/N 540445-5 (pins 2 & 4)
- Output Voltage: (See models chart below)
- Output Power (Watts): "4" = 400W
- Product Family

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Model Number	Volts (V)	Output Current		Ripple & Noise	Total Regulation	OVP Threshold
		Convection	Fan Cooled			
GNT412ABG	12V	25.0A	33.3A	120mV	±2%	14.0 ± 1V
GNT415ABG	15V	20.0A	26.7A	150mV	±2%	17.6 ± 1V
GNT418ABG	18V	16.7A	22.2A	180mV	±2%	20.8 ± 1V
GNT424ABG	24V	12.5A	16.7A	240mV	±2%	26.5 ± 1V
GNT428ABG	28V	10.7A	14.3A	280mV	±2%	32.0 ± 1V
GNT436ABG	36V	8.3A	11.1A	360mV	±2%	39.0 ± 1V
GNT448ABG	48V	6.3A	8.4A	480mV	±2%	55.0 ± 2V

- Notes:**
1. When the input voltage is <90Vac, derate output power to 300W fan cooled or 250W convection.
  2. Using the T or E cover options allows for 400W continuous operation up to 40°C ambient.
  3. For 400W at 50°C, use 100 lfm fan cooling.

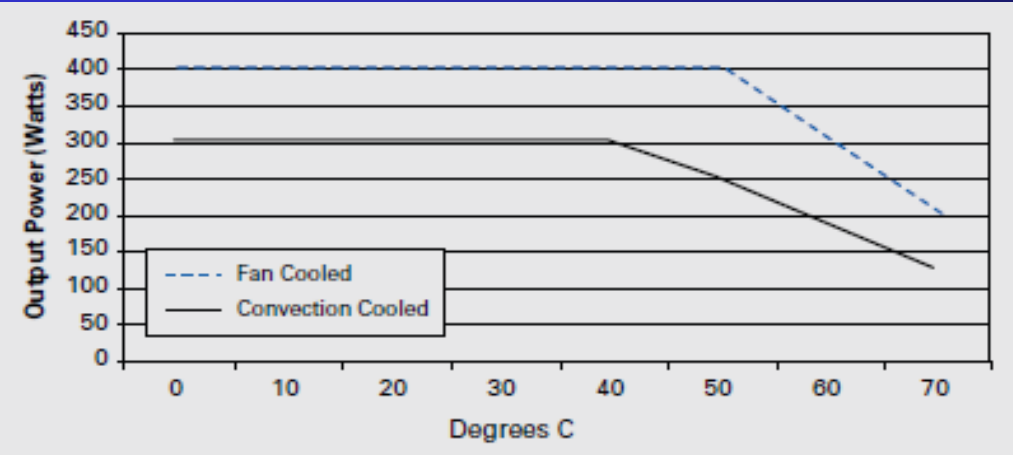
## EMI/EMC Compliance

Conducted Emissions	EN55011/22 Class B
Radiated Emissions	EN55011/22 Class A
Voltage Fluctuations	EN61000-3-3, complies
Static Discharge Immunity	EN61000-4-2, 6kV Contact Discharge, 8kV air discharge
Radiated RF Immunity	EN61000-4-3, 3V/m.
EFT/Burst Immunity	EN61000-4-4, 2kV/5kHz..
Line Surge Immunity	EN61000-4-5, 1kV differential, 2kV common-mode
Conducted RF Immunity	EN61000-4-6, 3Vrms
Power Frequency Magnetic Field Immunity	EN61000-4-8, 3A/m
Voltage Dip Immunity	EN61000-4-11 criteria A @ 250 Watts or less.
Line Frequency Harmonics	EN61000-3-2, Class A

## Environmental Specifications      Auxiliary Outputs and Signals

Operating Temperature	0 to 70°C (See chart)	PS On	Low to Inhibit
Storage temperature	-40 to 85°C	PS Off	TTL HI to Inhibit
Operating Altitude	-500 to 10,000 ft.	Pwr OK	HI when AC is OK, 100-200 msec delay
Non-operating Altitude	-500 to 40,000 ft.	Pwr OK	PF low – 4 msec warning
Relative Humidity	5% to 95%, non-condensing	DC OK	HI when output is >95% of nominal
Vibration	5 Hz – 500 Hz, 2.5g rms	5V Standby Output	Always ON, up to 100mA
Shock	Per MIL-STD-810E, 516.4 part IV	Fan Output	12Vdc @ 250mA (turns off during inhibit)

## GNT400 Output Power vs. Line Voltage & Temperature



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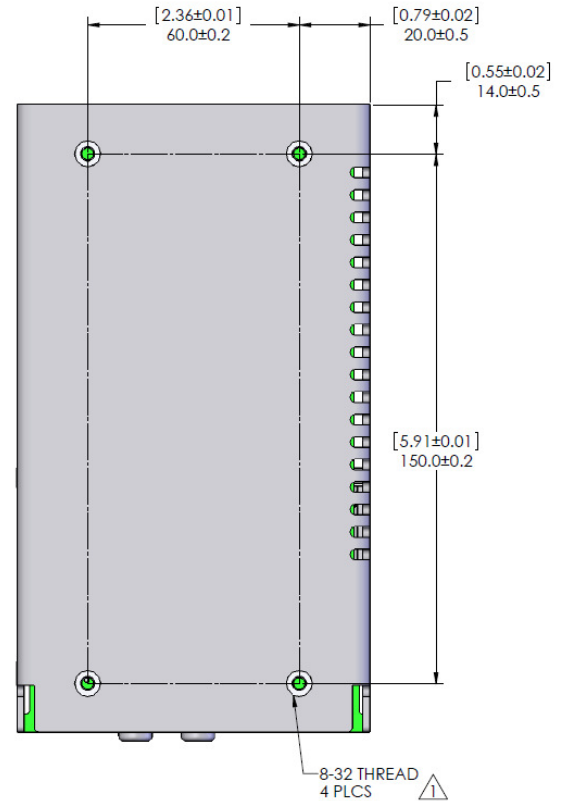
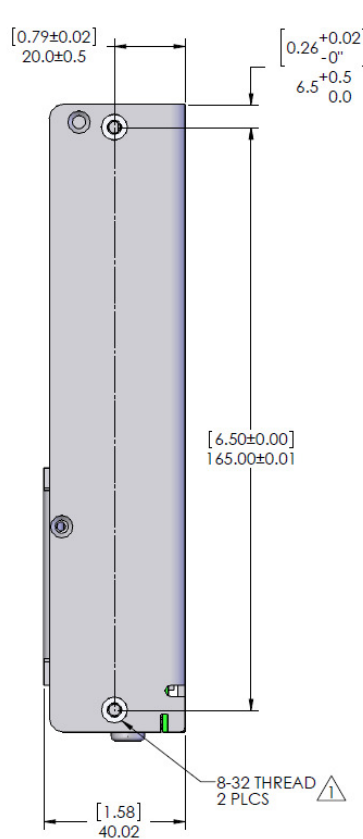
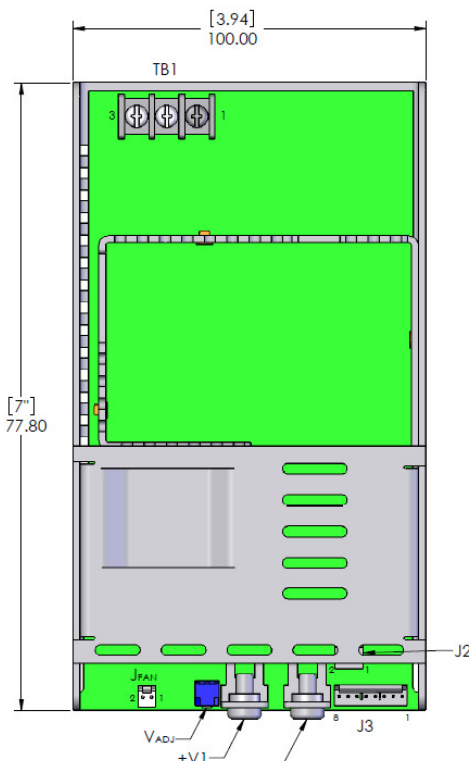


2 Year Warranty

## Mounting Options

# GNT400 SERIES

WEIGHT: 0.75 Kg [1.6 LBS]



INPUT: TB1 - EBY P/N 5002-03-N-12

- 1 AC LINE
- 2 AC NEUTRAL LINE
- 3 AC SAFETY GND

OUTPUT: BUSSBAR #1 +V1  
10-32UNC X .375 SCREW

BUSSBAR #2 RETURN  
10-32UNC X .375 SCREW

J FAN - AMP P/N 640456-2

- 1 +12V @ 0.25A
- 2 FAN RTN.

J3 - AMP P/N 640456-8

- 1 PS OFF
- 2 INHIBIT
- 3 PWR OK
- 4 DC OK
- 5 SIGNAL RTN
- 6 +5V @ 0.1A
- 7 -SENSE
- 8 +SENSE

TOLERANCE: MOUNTING HOLES ONLY  
CENTER-TO-CENTER

- XX.XX = ± 0.2 [ .008 ]
- XX.X = ± 0.5 [ .020 ]
- XX. = ± 1.0 [ .039 ]

Mating Connectors (Tyco/Amp)		
Location	Option	Type
Input	A	#6-32 Lug .325 CTR
	B	Wire
	C	Amp 640250-5 and 3-770476-1
Output	B	#10-32 Lug
	T	Wire
J3		Amp 64xxxx-8 with sockets
J Fan		Amp 64xxxx-2 with sockets

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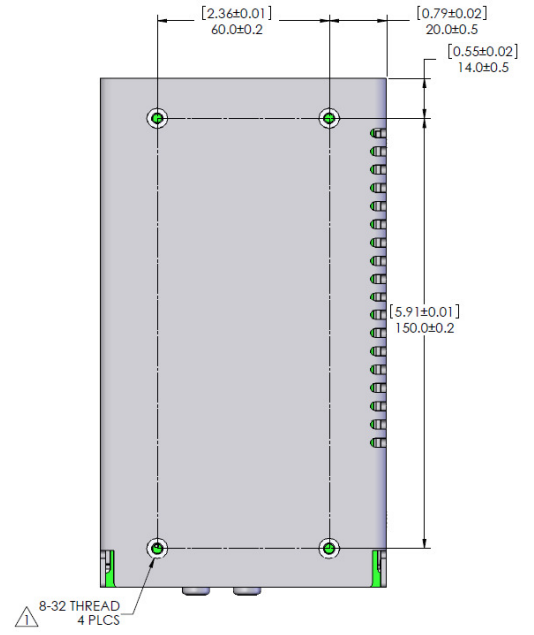
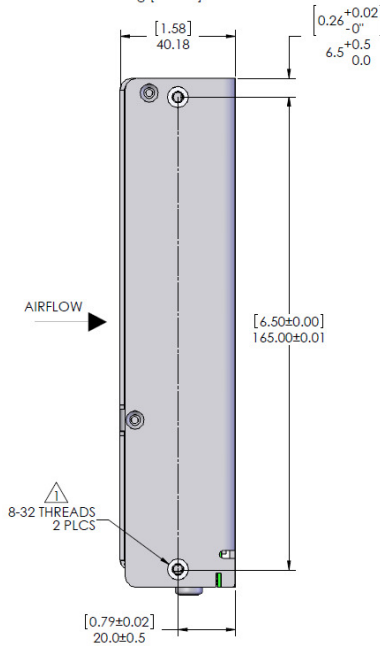
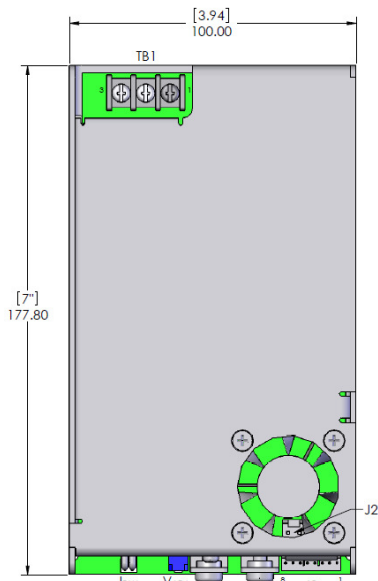


2 Year Warranty

## Mounting Options (continued)

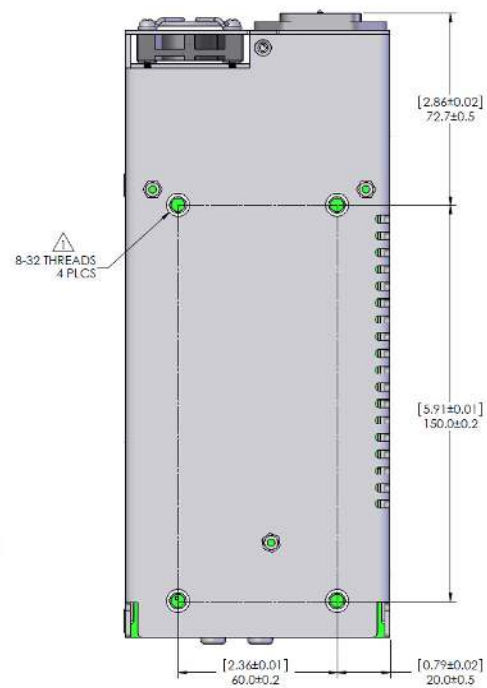
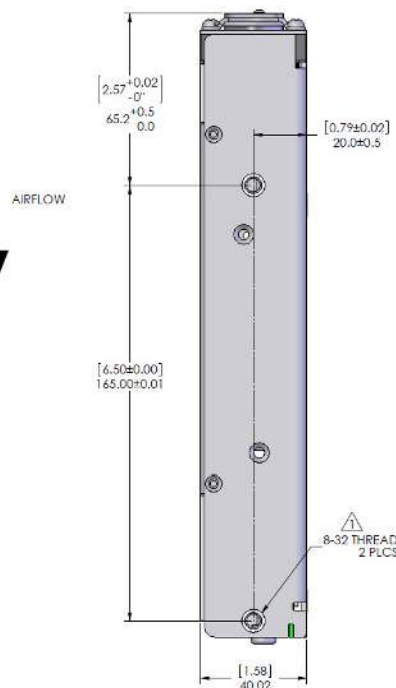
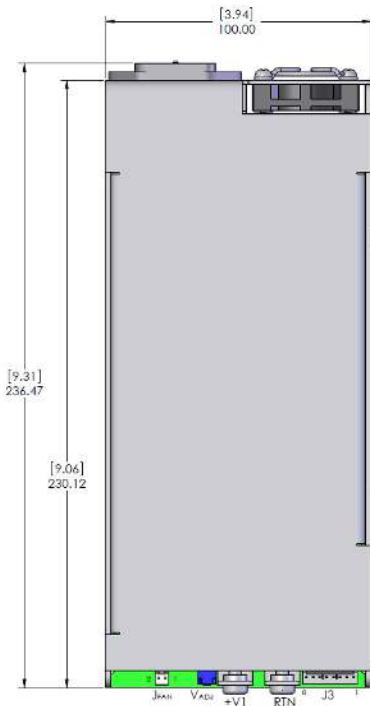
### "T" OPTION

WEIGHT: 0.75 Kg [1.6 LBS]



### "E" OPTION

WEIGHT: 0.84 Kg [1.86 LBS]



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Rev. 8-27-2010