

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/in³
- 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

GNT400

Front End Series 400W AC/DC

Universal Input Medical & ITE Power Supply



2 Year Warranty

| 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.

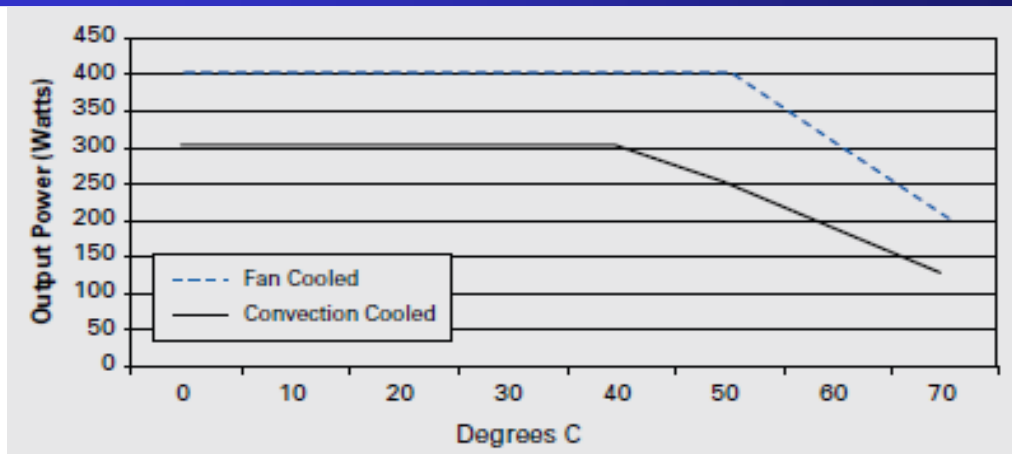
EMI/EMC Compliance

| | |
|---|---|
| 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



GNT400

Front End Series 400W AC/DC

Universal Input Medical & ITE Power Supply

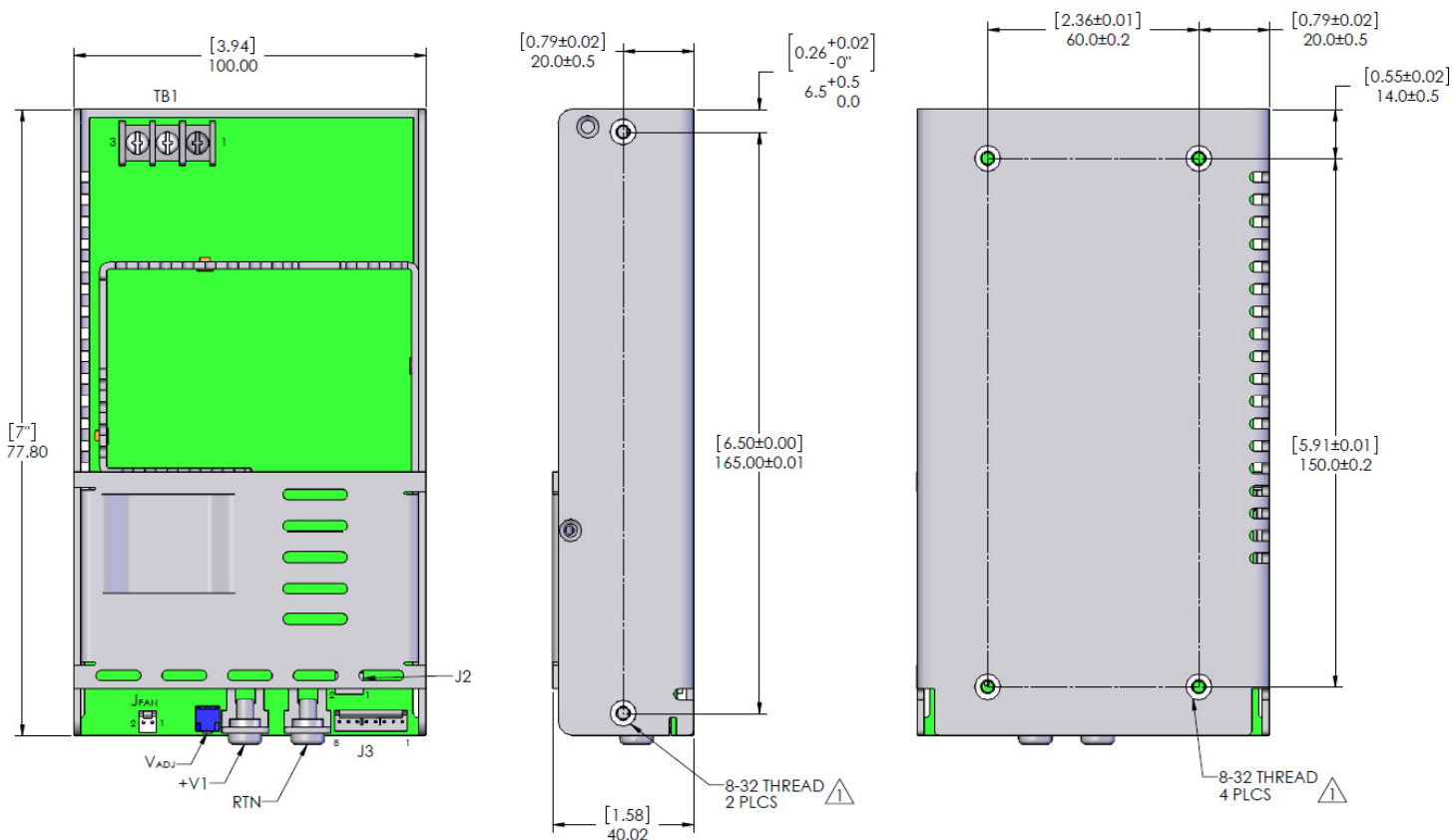


2 Year Warranty

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 |

GNT400

Front End Series 400W AC/DC

Universal Input Medical & ITE Power Supply

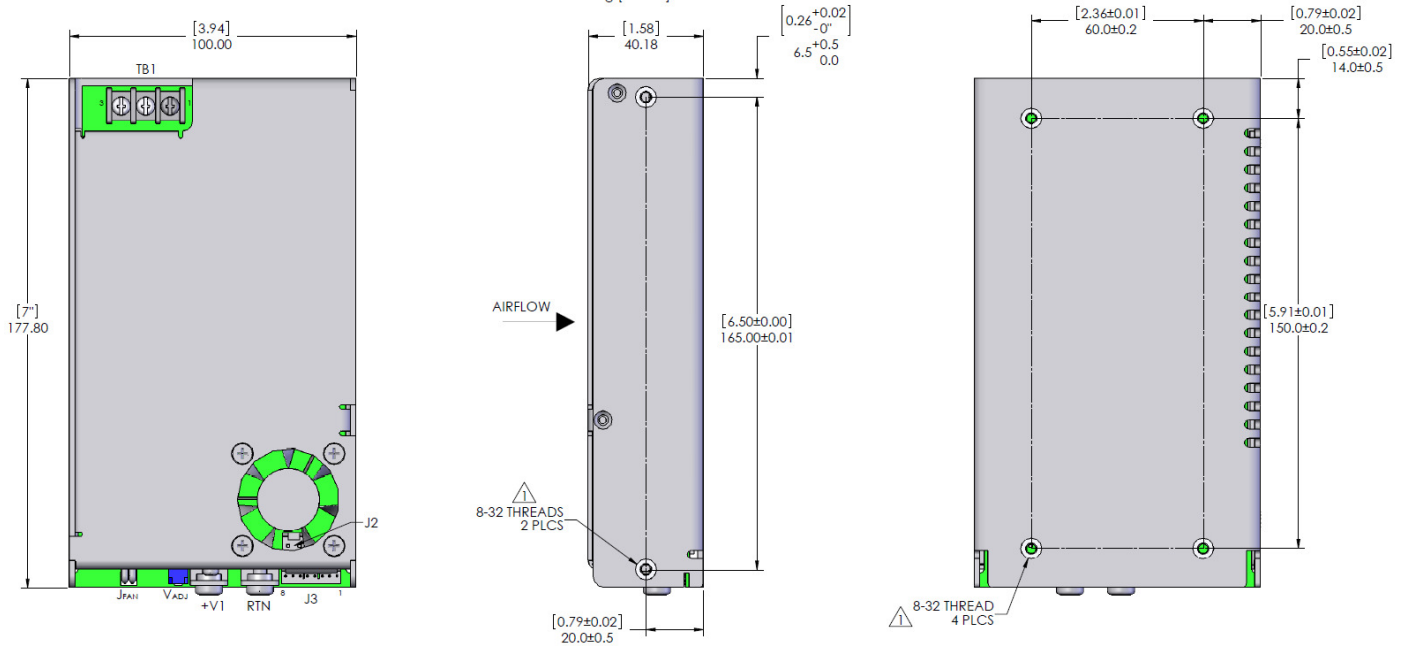


2 Year Warranty

Mounting Options (continued)

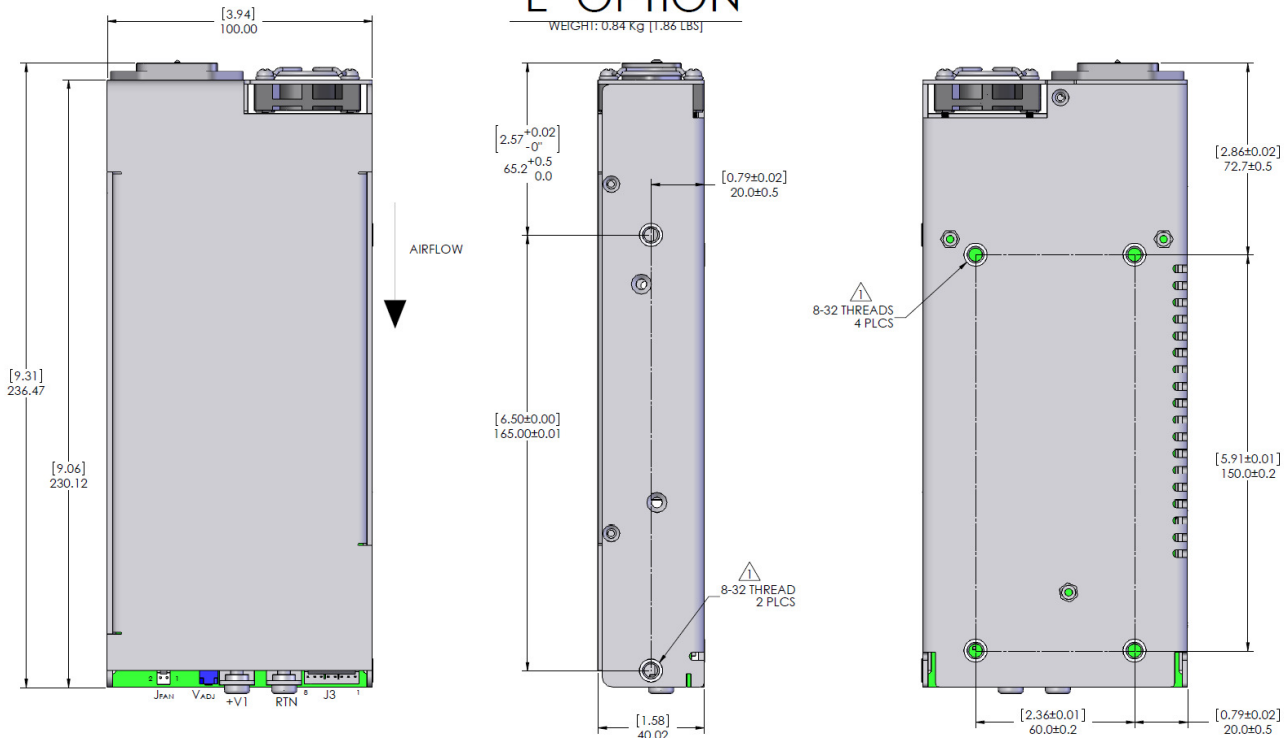
"T" OPTION

WEIGHT: 0.75 Kg [1.6 LBS]



"E" OPTION

WEIGHT: 0.84 Kg [1.86 LBS]



Data Sheet © 2010 SL Power Electronics Corp. The information and specifications contained herein are believed to be correct at the time of publication. SL Power accepts no responsibility for consequences arising from reproduction errors or inaccuracies. Specifications are subject to change without notice.

Rev. 8-27-2010