

GNT400

Front End Series 400 Watt AC/DC



Universal Input Power Supply

2 Year Warranty

- 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 400 W
- 5 Vdc 100 mA Standby Output
- 12 V DC Fan Output
- Approved to UL, CSA and EN/IEC Standards
- 300 W Convection Rating
- Less than 100 µA Leakage
- Compliance to EN55011/22 Conducted Noise B
- RoHS Compliant-Category 6



The GNT400 provides 400 W of DC output power in a compact package. Standby, control and monitoring inputs and outputs provide all the essential elements for a variety of applications including, single board computers, running motors, pumps, and solenoids. Approval to EN60601-1 and EN60950 improves design-in time and reduces end system compliance costs.



Specifications

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

Input Voltage Range Universal input, 80 - 270 VAC (See note).	Transient Response 500 µs to 1%, 0.2 A/µs, 3.5% for 50% step load change.						
Input Frequency 45 - 65 Hz	Turn On Time 500 ms max.						
Input Current 120 VAC, 4.2 A. 230 VAC, 2.1 A.	Hold-up Time 20 ms at 400 W.						
Inrush Current Active circuit, 37 A max. peak.	Over/Undershoot 3.5% max.						
Input Fuse F1,F2, 6.3 A for line and neutral.	Overload Protection Cycling type, 470 W typical.						
Power Factor 0.99 typical, 0.96 minimum.	Overvoltage Protection See chart.						
Earth Leakage Current 100 µA at 120 Vac, 60 Hz Normal. 400 µA at 264 V, 50 Hz Single fault.	Ripple and Noise 1% pk-pk max., 20 MHz BW.						
Output Power 400 W with fan cooling. See derating chart for other conditions.	Remote Sense Compensates for up to 500 mV.						
Peak Output Power 450 W for 1 minute, 10% duty cycle.	Commercial Safety Standards UL/EN/CSA 60950-1.						
Output Voltage See chart.	Medical Safety Standards UL/EN/IEC60601-1						
Voltage Adjustability +/- 5% minimum.	Thermal Considerations						
Minimum Load Not required.	<table border="0"> <tr> <td>Component</td> <td>Recommended Max. Temperature</td> </tr> <tr> <td>T5 cover indentation</td> <td>90°C</td> </tr> <tr> <td>T1 Inside coil</td> <td>100°C</td> </tr> </table>	Component	Recommended Max. Temperature	T5 cover indentation	90°C	T1 Inside coil	100°C
Component	Recommended Max. Temperature						
T5 cover indentation	90°C						
T1 Inside coil	100°C						
Total Regulation See chart.	Switching Frequency Output 170 kHz +/-8 kHz. PFC 140 kHz +/-8 kHz.						

GNT400

Front End Series 400 Watt AC/DC

Universal Input Power Supply

Model Number	Volts	Fan Cooled Amps	Convection Amps	Ripple & Noise	Total Regulation	OVP Threshold
GNT412ABG	12 V	33.3 A	25 A	120 mV	+/-2%	14 V +/-0.75 V
GNT424ABG	24 V	16.7 A	12.5 A	240 mV	+/-2%	26.5 V +/-1 V
GNT428ABG	28 V	14.3 A	10.7 A	280 mV	+/-2%	34 V +/-1 V
GNT436ABG	36 V	11.1 A	8.3 A	360 mV	+/-2%	39 V +/-1 V
GNT448ABG	48 V	8.4 A	6.3 A	480 mV	+/-2%	55 V +/-2 V

Note

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

General Specifications (continued from p. 1)

MTBF

300K hours per Telcordia.

Overtemperature Protection

Automatic.

Efficiency

typical 88% @ 120VAC, 91% @ 240.

Signals

PS On - Low to Inhibit.
 PS Off - TTL Hi to Inhibit.
 Pwr OK - Hi when AC is OK 100-200 ms delay.
 Pwr OK - PF Low 4 ms warning.
 DC OK - Hi when output is > 95 %.

Fan Output

12 Vdc @ 250 mA (turns off during Inhibit).

5 V Standby Voltage

Always on, up to 100 mA.

EMC/EMI Information

Conducted Emissions	EN55011/22	Class B
Radiated Emissions	EN55011/22	Class A
Line freq. Harmonics	EN61000-3-2	Class A
Voltage Fluctuations	EN61000-3-3	Complies
ESD	EN61000-4-2	Cont. 6 kV, Air 8 kV
Radiated Immunity	EN61000-4-3	3 V/m
Fast Transients (EFT)	EN61000-4-4	2 kV 5 kHz
Line Surge Immunity	EN61000-4-5	2 kV CM, 1 kV Dif.
Conducted Immunity	EN61000-4-6	3 Vrms
Power Freq. Mag. Field	EN61000-4-8	3 A/m
Voltage Dip Immunity	EN61000-4-11	Contact Factory

Environmental Specifications

Operating Temperature

0 to 70°C (see chart).

Storage Temperature

-40 to +85°C.

Operating Altitude

-500 to 10,000 ft.

Non-operating Altitude

-500 to 40,000 ft.

Relative Humidity

5% - 95%.

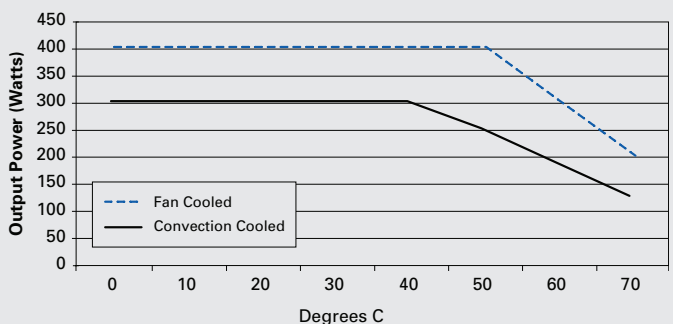
Vibration

5 Hz- 500 Hz, 2.5 g_{rms}.

Shock

MIL-STD-810E, 516.4 part IV.

Output Power Derating Curve



GNT400

Front End Series 400 Watt AC/DC

Universal Input Power Supply

Mounting Options

GNT400

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 \oplus

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.

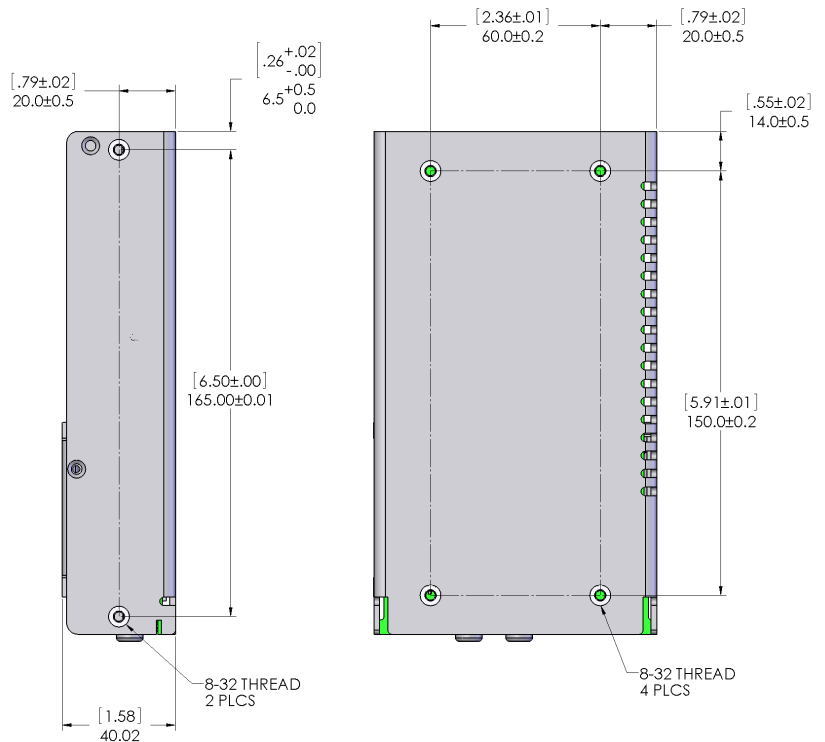
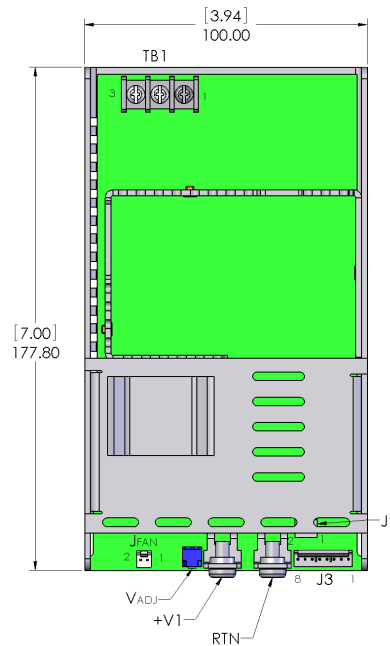
J3 - AMP P/N 640456-8

- 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



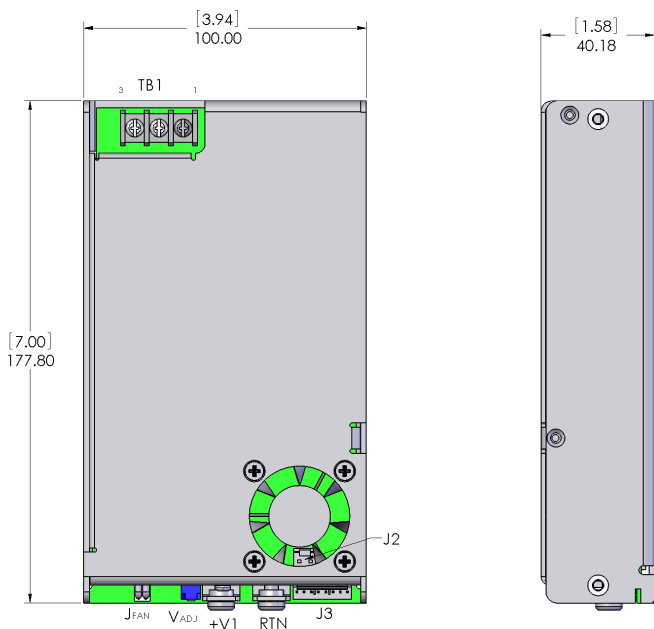
GNT400

Front End Series 400 Watt AC/DC

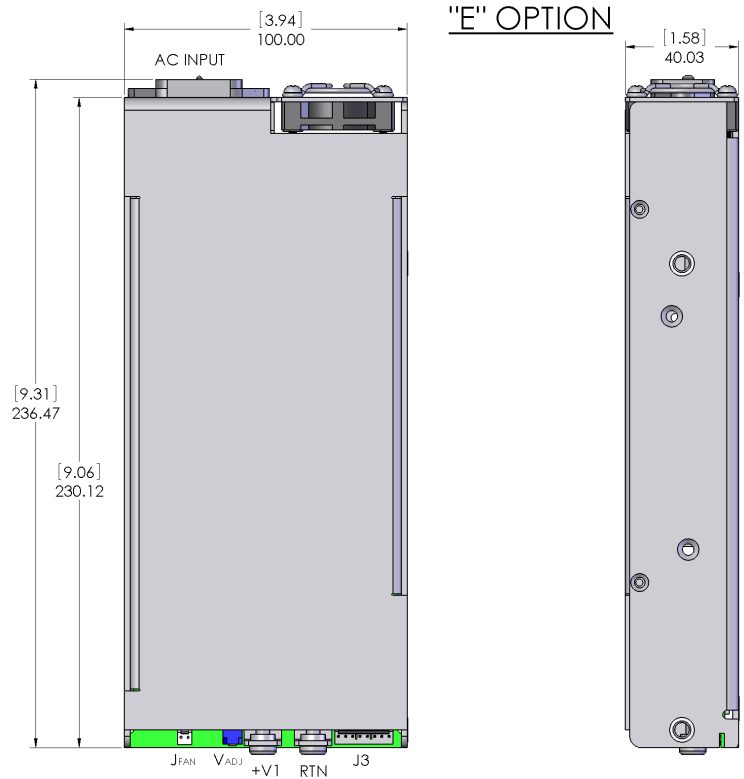
Universal Input Power Supply

Mounting Options (continued from p.3)

"T" OPTION



"E" OPTION



GNT4XX X X X G

