

400 WATTS

SINGLE OUTPUT AC-DC

FEATURES:

- Compact 3.9" x 8.0" x 1.5" Size
- 3 Year Warranty
- Universal 85-264V Input
- Single High Efficiency Output
- Power Fail Warning
- 0-70°C Operating Temperature
- RoHS Compliant
- IEC 60601-1 3rd ed. Medical Cert.
- IEC 62368-1 2nd ed. Certification
- IEC 60601-1-2 4th ed. EMC
- Class B Emissions per EN55011/32
- Optional Single Wire Load Sharing
- Optional Remote Inhibit/Enable
- Optional Chassis/Cover



CHASSIS/COVER

OPEN FRAME

SAFETY SPECIFICATIONS



Underwriters Laboratories
File E137708/E140259

UL 62368-1:2014, 2nd Edition
CAN/CSA-C22.2 No. 62368-1-14
AAMI/ANSI ES60601-1:2005/(R) 2012
CAN/CSA-C22.2 No. 60601-1:2014



CB Reports/Certificates (including all National and Group Deviations)

IEC 62368-1:2014, 2nd Edition
IEC 60601-1:2005/A1:2012



TUV SUD America

EN 62368-1:2014, 2nd Edition
EN 60601-1:2006/A1:2013



Low Voltage Directive
RoHS Directive (Recast)

(2014/35/EU of February 2014)
(2011/65/EU of June 2011)



Electrical Equipment (Safety) Regulations 2016 SI No. 1101
Restriction of the Use of Certain Hazardous Substances in EEE Regulations
2012 SI No. 3032 + 2019 SI No.492

MODEL LISTING

| MODEL | OPEN FRAME | | CHASSIS/COVER | |
|--------------|------------|-------------------|---------------|-------------------|
| | 300 LFM | CONVECTION COOLED | 300 LFM | CONVECTION COOLED |
| NXT-400-1001 | 2.5V/80.0A | 2.5V/45.0A | 2.5V/72.0A | 2.5V/40.5A |
| NXT-400-1002 | 3.3V/80.0A | 3.3V/45.0A | 3.3V/72.0A | 3.3V/40.5A |
| NXT-400-1003 | 5V/80.0A | 5V/45.0A | 5V/72.0A | 5V/40.5A |
| NXT-400-1004 | 12V/33.3A | 12V/18.8A | 12V/29.9A | 12V/16.9A |
| NXT-400-1005 | 15V/26.7A | 15V/15.0A | 15V/24.0A | 15V/13.5A |
| NXT-400-1006 | 24V/16.7A | 24V/9.4A | 24V/15.0A | 24V/8.5A |
| NXT-400-1007 | 28V/14.3A | 28V/8.0A | 28V/12.8A | 28V/7.2A |
| NXT-400-1008 | 48V/8.3A | 48V/4.7A | 48V/7.5A | 48V/4.2A |

Please refer to Output Power Derating chart.

ORDERING INFORMATION

Consult factory for alternate output configurations.

Please specify the following optional features when ordering:

CH - Chassis
CO - Cover
LS - Single Wire Load Sharing

LSEVB - Load Share Evaluation Board
RE - Remote Inhibit

All specifications are maximum at 25°C/400W unless otherwise stated, may vary by model and are subject to change without notice.

NXT-400

OUTPUT SPECIFICATIONS

| | | |
|---|---|---|
| Output Power at 50°C ₍₁₎ (See Derating Chart) | 225W 400W | Convection Cooled, Open Frame 300LFM Forced-Air Cooled ₍₁₅₎ |
| Power Derating | 2.5 W _{OUT} / 1 V _{IN} below 100 V _{IN} | |
| Voltage Centering | ± 0.5% | (50% load) |
| Voltage Adjust Range | 95-105% | |
| Load Regulation | 0.5% | (0-100% load change) |
| Source Regulation | 0.5% | |
| Noise | 1.0% or 100mV Whichever is greater | |
| Turn on Overshoot | None | |
| Transient Response | Output recovers to within 1% of initial set point due to a 50% step load change, 500µS maximum, 4% maximum deviation. | |
| Overvoltage Protection | Latching, between 110% and 150% of rated output voltage. | |
| Overpower Protection | 110-130% rated P _{out} , cycle on/off, auto recovery | |
| Hold Up Time | 16ms min., Full Power, 85-264V Input | |
| Start Up Time | 3 Seconds, 120V Input | |

INPUT SPECIFICATIONS

| | |
|---------------------------------|--|
| Protection Class | I |
| Source Voltage | 85 – 264 Volts AC |
| Frequency Range | 47 – 63 Hz |
| Input Protection ₍₅₎ | Internal 10A Time Delay fuse |
| Peak Inrush Current | 50A (cold) |
| Efficiency | 85% Typical, Full Power varies by model |
| Power Factor | 0.95 (Full Power, 230V), 0.98 (Full Power, 120V) |

ENVIRONMENTAL SPECIFICATIONS

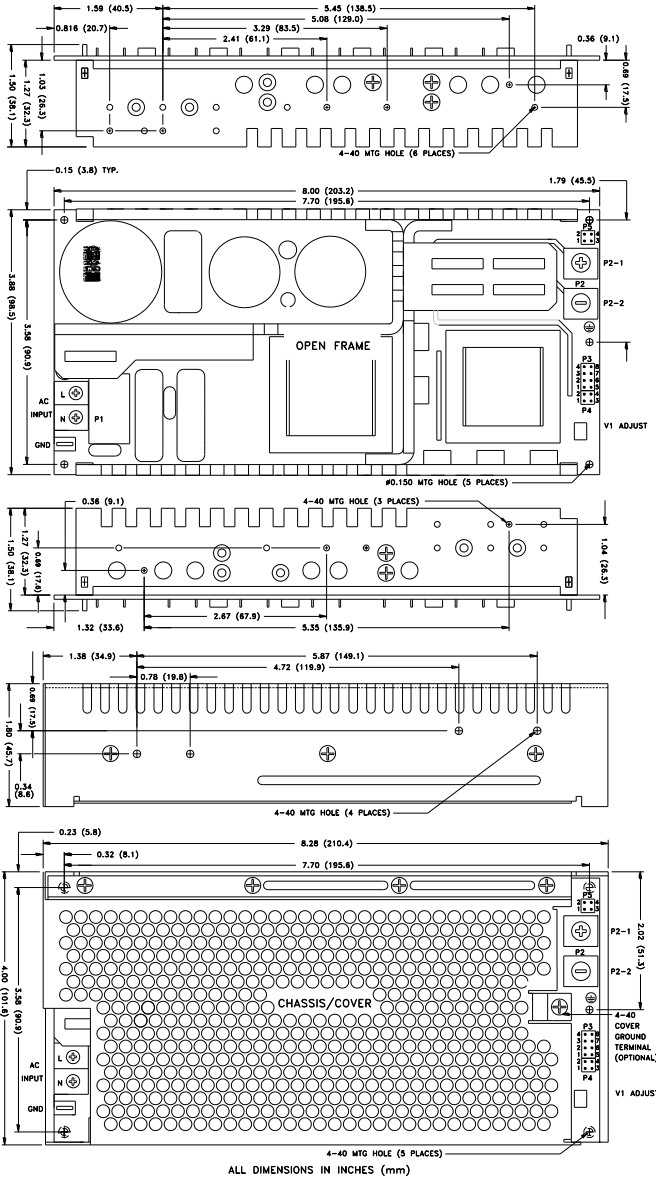
| | |
|-------------------------------------|--|
| Ambient Operating Temperature Range | 0°C to + 70°C Derating: See Power Rating Chart |
| Thermal Shutdown | Output voltage is inhibited during excessive internal temperatures, automatic reset. |
| Ambient Storage Temp. Range | - 40°C to + 85°C |
| Operating Relative Humidity Range | 20-90% non-condensing |
| Altitude | 10,000 ft. ASL. Operating/ 40,000 ft. ASL. Non-operating |
| Temperature Coefficient | 0.02%/°C |
| Vibration | 2.5g, 10Hz. – 2KHz per MIL-STD-810F Method 514.5 |
| Shock | 20g, peak per MIL-STD-810F Method 516.5 |

GENERAL SPECIFICATIONS

| | | |
|---|---|---|
| Means of Protection | Primary to Secondary Primary to Ground Secondary to Ground | 2MOPP (Means of Patient Protection) 1MOOP (Means of Operator Protection) Operational Insulation(Consult factory for 1MOPP) |
| Dielectric Strength _(7, 8) | Reinforced Insulation Basic Insulation Operational Insulation | 5656 VDC, Primary to Secondary 2121 VDC, Primary to Ground 707 VDC, Secondary to Ground |
| Leakage Current | Earth Leakage Touch Current | <300µA NC, <1000µA SFC <100µA NC, <500µA SFC |
| Power Fail Signal ₍₁₃₎ | | Logic low with input power failure 10 ms minimum prior to output 1 dropping 1%. |
| Remote Inhibit (optional) | | Isolated. Contact closure inhibits output. |
| Load Share (optional) _(15, 16, 17) | | Single wire current sharing with return via negative sense return. Minimum current share load is 10% of each module's output current rating. Maximum output voltage deviation between modules is 5% for 2.5 through 5 V models and 400 mV for remaining models. |
| Standby Power (optional) ₍₁₈₎ | | Isolated 5 VDC ± 10%, 10mA available with Remote Inhibit Option. |
| Remote Sense ₍₉₎ | | 400mV compensation of output cable losses |
| Mean-Time Between Failures | | 100,000 Hours min., MIL-HDBK-217F, 25° C, GB |
| Weight | | 2.65 Lbs. Open Frame/ 3.60 Lbs. Chassis and Cover |

EMC SPECIFICATIONS (IEC 60601-1-2:2014, 4TH ed./IEC 61000-6-2:2005)

| | | | |
|-----------------------------------|---------------|--|--|
| Electrostatic Discharge | EN 61000-4-2 | ±8KV contact / ±15KV air discharge | A |
| Radiated Electromagnetic Field | EN 61000-4-3 | 80MHz-2.7GHz, 10V/m, 80% AM | A |
| Electrical Fast Transients/Bursts | EN 61000-4-4 | ±2 KV, 5KHz/100KHz | A |
| Surge Immunity | EN 61000-4-5 | ±2 KV line to earth / ±1 KV line to line | A |
| Conducted Immunity | EN 61000-4-6 | 0.15 to 80MHz, 10V, 80% AM | A |
| Magnetic Field Immunity | EN 61000-4-8 | 30A/m, 60 Hz. | A |
| Voltage Dips | EN 61000-4-11 | 0% U _T , 0.5 cycles, 0-315° 0% U _T , 1 cycles, 0° 40% U _T , 10/12 cycles, 0° 70% U _T , 25/30 cycles, 0° | 100/240V A/A 100/240V A/A 100/240V B/A 100/240V B/A |
| Voltage Interruptions | EN 61000-4-11 | 0% U _T , 300 cycles, 0° | 100/240V B/B |
| Radiated Emissions | EN 55011/32 | Class B | |
| Conducted Emissions | EN 55011/32 | Class B | |
| Harmonic Current Emissions | EN 61000-3-2 | Class A | |
| Voltage Fluctuations/Flicker | EN 61000-3-3 | Compliant | |

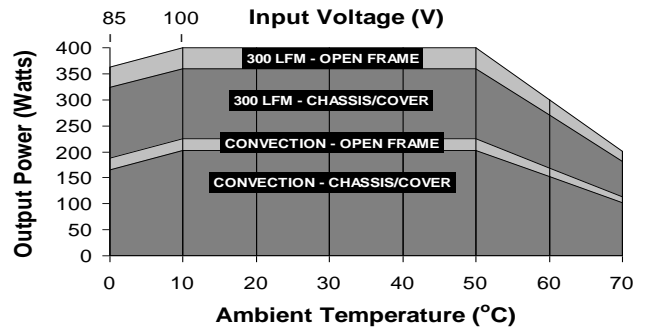


CONNECTOR SPECIFICATIONS

| | |
|--|---|
| <p>P1</p> <p>L N</p> | <p>AC Input</p> <p>Terminal block with 6-32 screws on 0.325 centers mates with #6, spade terminals. (8 in-lb max)</p> |
| <p>P2</p> <p>OUTPUT 1 (-) OUTPUT 1 (+)</p> | <p>DC Output</p> <p>10-32 screw down terminal mates with #10 ring tongue terminal. (10 in-lb Max)</p> |
| <p>P3</p> <p>SHARE BUS ENABLE 4</p> <p>OUTPUT 1 (+) 2</p> <p>SENSE (+) 1</p> <p>8 SENSE (-)</p> <p>7 SENSE (-)</p> <p>6 OUTPUT 1 (-)</p> <p>5 SENSE (-)</p> | <p>Load Share, Sense</p> <p>0.100 friction lock header mates with Molex 22-55-2081 or equivalent crimp terminal housing with Molex 71851 or equivalent crimp terminal.</p> |
| <p>P4</p> <p>P.F. RTN 2</p> <p>P.F. SIG (+) 1</p> <p>4 P.F. RTN</p> <p>3 P.F. SIG (+)</p> | <p>Power Fail</p> <p>0.100 friction lock header mates with Molex 22-55-2041 or equivalent crimp terminal housing with Molex 71851 or crimp equivalent terminal.</p> |
| <p>P5</p> <p>INHIBIT RTN INHIBIT 2</p> <p>INHIBIT 1</p> <p>4 STBY PWR (-)</p> <p>3 STBY PWR (+)</p> | <p>Inhibit, Standby Power</p> <p>0.100 friction lock header mates with Molex 22-55-2041 or equivalent crimp terminal housing with Molex 71851 or equivalent crimp terminal.</p> |
| <p></p> | <p>Ground</p> <p>0.187 quick disconnect terminal.</p> |

1. Continuous Output Power must not exceed 400W.
2. Generally, adequate cooling is provided when semiconductor case temperatures do not exceed 70°C rise and transformer temperature does not exceed 60°C rise at any specified ambient temperature.
3. Sufficient area must be provided around power supply to allow natural movement of air to develop in convection-cooled applications.
4. This product is intended for use as a professionally-installed component within information technology, industrial, and medical equipment and is not intended for stand-alone operation.
5. This product includes only one fuse in the input circuit. In consideration of clause 8.11.5 of IEC 60601-1:2005, a second fuse may be required in neutral conductor of the end product.
6. Peak-to-Peak Output Ripple and Noise is measured directly at the output terminals of the power supply, without the use of the probe ground lead or retractable tip (tip-and-barrel method), 20MHz bandwidth.
7. This product was type-tested and safety-certified using the dielectric strength test voltages listed in Table 6 of IEC 60601-1:2005. In consideration of Clause 8.8.3, care must be taken to insure that the voltage applied to a reinforced insulation does not overstress different types and levels of insulation. Primary and secondary-to-ground capacitors may need to be disconnected prior to performing a dielectric strength test on the power supply or the end product. It is highly recommended that the DC test voltages listed in DVB.1, Annex DVB of UL 60601-1 1st Edition are not exceeded during a production-line dielectric strength test of the assembled end product. Please consult factory for further information.
8. This power supply has been safety-approved and final-tested using a DC dielectric strength test. Please consult factory before performing an AC dielectric strength test.
9. Remote-Sense terminals may be used to compensate for cable losses up to 400mV depending on model. The use of a twisted pair, decoupling capacitors and an appropriately-rated low-impedance capacitor connected across the load will increase noise immunity.
10. Maximum screw penetration into bottom chassis mounting holes is 0.100 inches. Maximum screw penetration into side chassis mounting holes is 0.250 inches.
11. To comply with emissions specifications, all four mounting hole pads must be electrically connected to a common metal chassis. Chassis/Cover option is recommended. Refer to Operating Instructions for additional information.
12. Common RF shielding precautions may need to be taken to assure emissions compliance. Refer to Operating Instructions for additional information.
13. Power Fail (AC-Good) feature provides a logic-low warning signal from an open collector transistor output 10ms prior to loss of output from AC failure.
14. 300LFM of airflow must be maintained one inch above the top of the heatsinks in any direction in open-frame forced-air applications; and one inch above and toward any of the three perforated sides of the cover in forced-air Chassis/Cover applications.
15. Low forward-voltage-drop oring diodes must be used in all load-sharing applications in 2.5 through 15V models. Oring diodes must be used on 24 through 48V models used in fault-tolerant applications but are optional in power-boosting applications. Oring diode power dissipation must be subtracted from the maximum output-power rating of each model.
16. Current-carrying conductors in load-sharing applications must be short and symmetrical.
17. Refer to Load-Share Evaluation Board data sheet for additional load-share applications information.
18. A load equal to 5% rated output power must be maintained when using Standby Power option. An external electrolytic capacitor across standby power output may be used to improve transient response.

MAX P_{OUT} vs. AMBIENT TEMPERATURE/INPUT VOLTAGE



Derating requirements – Chart above applies to models 1003 thru 1008 only. 400W 300LFM forced air, open frame. 225W convection cooled open frame. Derate 10% with chassis and cover. Derate 2.5W_{OUT}/1V_{IN} below 100V_{IN} and between 100V_{IN} and 85V_{IN}. Use larger of the two deratings when using chassis/cover below 100V_{IN}. Derate output power linearly to 50% between 50° and 70°C.

TYPICAL LOAD SHARE/REMOTE SENSE APPLICATION

