

100 WATTS

SINGLE OUTPUT AC-DC

FEATURES:

- Compact 2.5" x 4.5" x 1.0" 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, 2nd Edition
AAMI/ANSI ES60601-1:2005/(R) 2012/(R)2021
CAN/CSA-C22.2 No. 60601-1:2014:2022



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

IEC 62368-1:2014, 2nd Edition
IEC 60601-1:2005/A1:2012/A2:2020



TUV SUD America

EN 62368-1:2014, 2nd Edition
EN 60601-1:2006/A1:2013/A2:2021



Low Voltage Directive
RoHS Directive (Recast)

(2014/35/EU of February 2014)
(2015/863/EU of March 2015)



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-100-1001 | 2.5V/20.0A | 2.5V/14.0A | 2.5V/18.0A | 2.5V/12.6A |
| NXT-100-1002 | 3.3V/20.0A | 3.3V/14.0A | 3.3V/18.0A | 3.3V/12.6A |
| NXT-100-1003 | 5V/20.0A | 5V/14.0A | 5V/18.0A | 5V/12.6A |
| NXT-100-1004 | 12V/8.3A | 12V/5.8A | 12V/7.5A | 12V/5.2A |
| NXT-100-1005 | 15V/6.7A | 15V/4.7A | 15V/6.0A | 15V/4.2A |
| NXT-100-1006 | 24V/4.2A | 24V/2.9A | 24V/3.8A | 24V/2.6A |
| NXT-100-1007 | 28V/3.6A | 28V/2.5A | 28V/3.2A | 28V/2.3A |
| NXT-100-1008 | 48V/2.1A | 48V/1.5A | 48V/1.9A | 48V/1.4A |

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
WT - Low Temperature Turn On

All specifications are maximum at 25°C/100W unless otherwise stated, may vary by model and are subject to change without notice.

NXT-100

OUTPUT SPECIFICATIONS

| | | |
|---|---|---|
| Output Power at 50°C ⁽¹⁾ (See Derating Chart) | 70W 100W | Convection Cooled, Open Frame 300LFM Forced-Air Cooled ⁽¹⁵⁾ |
| Power Derating | 1.0 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 ⁽⁶⁾ | Internal 2.5A 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 | |
| Ambient Storage Temp. Range | - 40°C to + 85°C | |
| Operating Relative Humidity Range | 20-90% non-condensing | |
| Altitude | 3000m ASL Operating | 12,192m 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 514.5 | |

GENERAL SPECIFICATIONS

| | | |
|---|---|--|
| Means of Protection | 2MOPP (Means of Patient Protection) | |
| Primary to Secondary | 1MOPP (Means of Patient Protection) | |
| Primary to Ground | Operational Insulation(Consult factory for 1MOPP) | |
| Secondary to Ground | | |
| Dielectric Strength ^(8, 9) | | |
| Reinforced Insulation | 5656 VDC, Primary to Secondary | |
| Basic Insulation | 2121 VDC, Primary to Ground | |
| Operational Insulation | 707 VDC, Secondary to Ground | |
| Leakage Current | | |
| Earth Leakage | <300µA NC, <1000µA SFC | |
| Touch Current | <100µA NC, <500µA SFC | |
| Power Fail Signal ⁽¹⁴⁾ | Logic low with input power failure 10 ms minimum prior to output 1 dropping 1%. | |
| Remote Inhibit (optional) ⁽²⁰⁾ | Connection to external 5V bias inhibits output. | |
| Load Share (optional) ^(16, 17, 18) | 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. | |
| Remote Sense ⁽¹⁰⁾ | 400mV compensation of output cable losses | |
| Mean-Time Between Failures | 100,000 Hours, MIL-HDBK-217F, 25° C, GB | |
| Weight | 0.56 Lbs. Open Frame/ 0.96 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° | 100/240V A/A |
| | | 0% U _T , 1 cycles, 0° | 100/240V A/A |
| | | 40% U _T , 10/12 cycles, 0° | 100/240V B/A |
| | | 70% U _T , 25/30 cycles, 0° | 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 | |

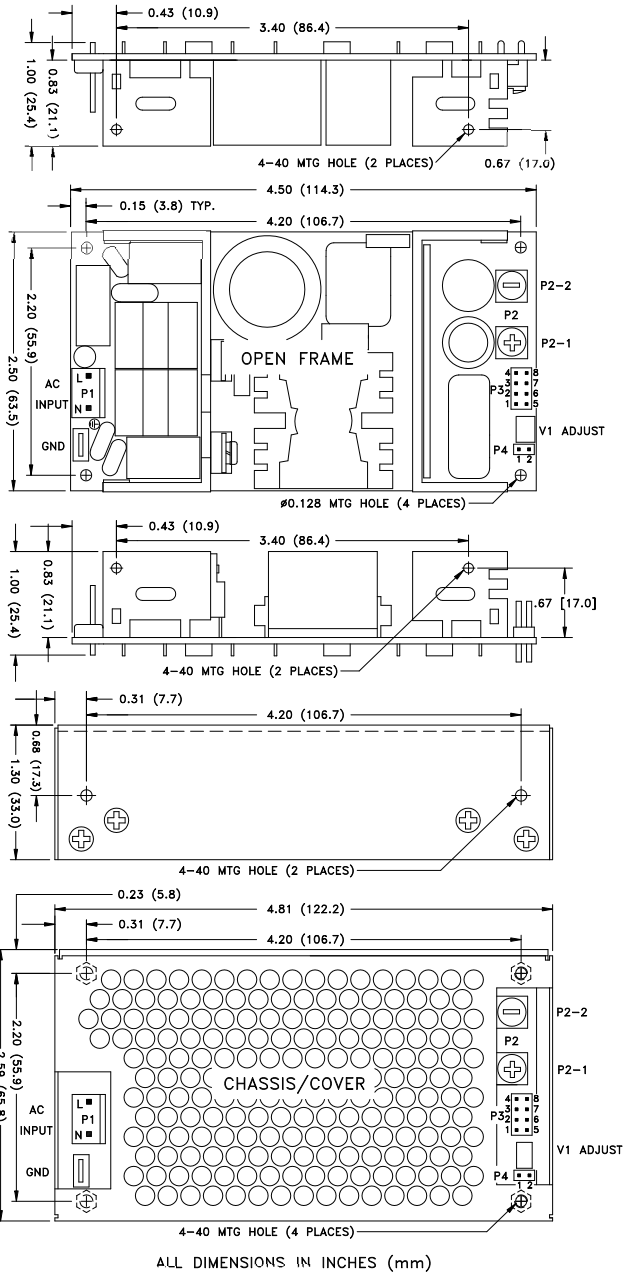


INTEGRATED
POWER DESIGNS

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NXT-100 SERIES MECHANICAL SPECIFICATIONS

APPLICATIONS INFORMATION

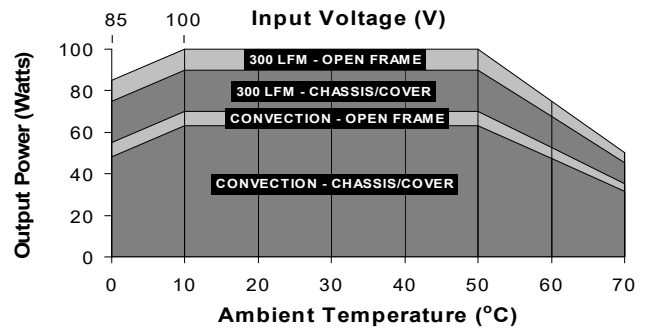


CONNECTOR SPECIFICATIONS

| | | |
|-----------|---------------------|--|
| P1 | AC Input | 0.156 friction lock header mates with Molex 09-50-3031 or equivalent crimp terminal housing with Molex 2478 or equivalent crimp terminal. |
| P2 | DC Output | 6-32 screw down terminal mates with #6 ring tongue terminal. (10 in-lb Max) |
| P3 | Power Fail, Sense | 0.100 friction lock header mates with Molex 22-55-2081 or equivalent crimp terminal housing with Molex 71851 or crimp equivalent terminal. |
| P4 | Inhibit, Load Share | 0.100 friction lock header mates with Molex 50-57-9002 or equivalent crimp terminal housing with Molex 71851 or equivalent crimp terminal. |
| | Ground | 0.187 quick disconnect terminal. |

- Continuous Output Power must not exceed 100W.
- 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.
- Sufficient area must be provided around power supply to allow natural movement of air to develop in convection-cooled applications.
- 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.
- A minimum load of 10% is required on Output 1 to ensure proper regulation of remaining outputs.
- 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.
- 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.
- 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.
- 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.
- 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.
- Maximum screw penetration into bottom chassis mounting holes is 0.100 inches. Maximum screw penetration into side chassis mounting holes is 0.250 inches.
- 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.
- Common RF shielding precautions may need to be taken to assure emissions compliance. Refer to Operating Instructions for additional information.
- 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.
- 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.
- 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.
- Current-carrying conductors in load-sharing applications must be short and symmetrical.
- Refer to Load-Share Evaluation Board data sheet for additional load-share applications information.
- P3-2 Load Share Enable and P4-2 Remote Inhibit will share a common negative return pin P3-1.
- Remote Inhibit option will require an outside TTL compatible source.

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



Derating requirements – Chart above applies to models 1003 thru 1008 only. 100W 300 LFM forced air, open frame. 70W convection cooled open frame. Derate 10% with Chassis and Cover. Derate 1.0W_{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

