

350 WATTS

SINGLE OUTPUT AC-DC

FEATURES:

- Compact 3.9" x 6.0" 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)
(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-325-1001	2.5V/65.0A	2.5V/40.0A	2.5V/58.5A	2.5V/36.0A
NXT-325-1002	3.3V/65.0A	3.3V/40.0A	3.3V/58.5A	3.3V/36.0A
NXT-325-1003	5V/65.0A	5V/40.0A	5V/58.5A	5V/36.0A
NXT-325-1004	12V/29.2A	12V/16.7A	12V/26.3A	12V/15.0A
NXT-325-1005	15V/23.3A	15V/13.3A	15V/20.9A	15V/12.0A
NXT-325-1006	24V/14.6A	24V/8.3A	24V/13.1A	24V/7.5A
NXT-325-1007	28V/12.5A	28V/7.1A	28V/11.3A	28V/6.4A
NXT-325-1008	48V/7.3A	48V/4.2A	48V/6.6A	48V/3.8A

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/maximum rated power unless otherwise stated, may vary by model and
Are subject to change without notice.

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NXT-325

OUTPUT SPECIFICATIONS

Output Power at 50°C ⁽¹⁾ (See Derating Chart)	100-202W 163-350W	Convection Cooled, Open Frame 300LFM Forced-Air Cooled ⁽¹⁵⁾
Power Derating	2.0 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 8A 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

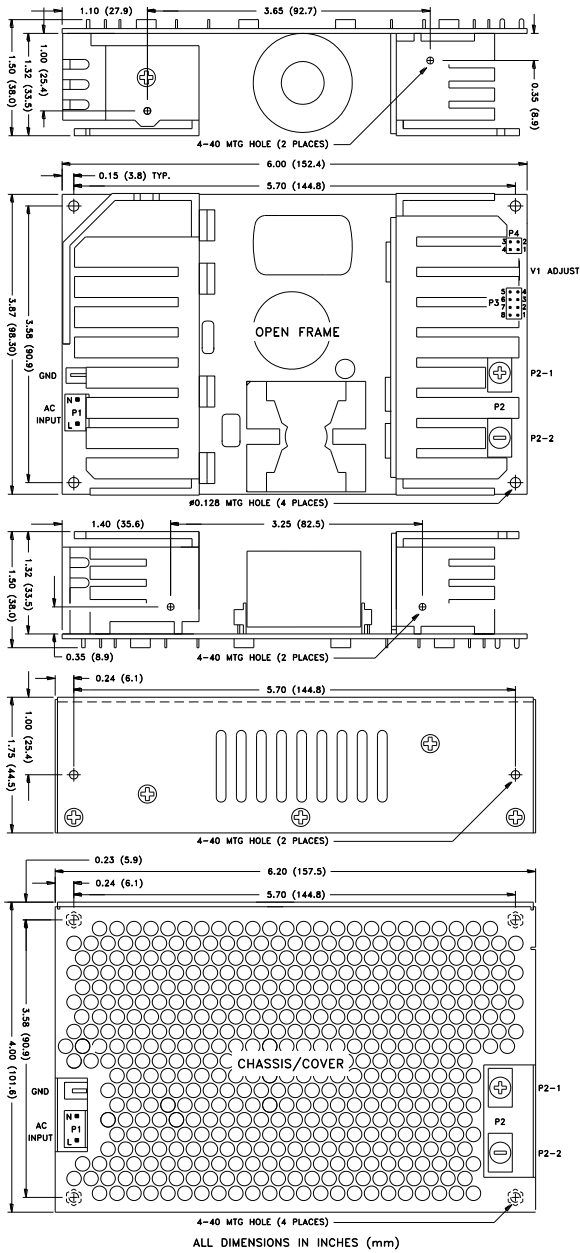
Ambient Operating	0°C to + 70°C	
Temperature Range	Derating: See Power Rating Chart	
Thermal Shutdown	Output voltage is inhibited during excessive internal temperatures, automatic reset.	
Ambient Storage Temp. Range	- 40°C to + 85°C	
Operating Relative Humidity Range	20-90% non-condensing	
Altitude	10,000 ft. ASL Operating/ 40,000 ft. ASL Non-operating	
Temperature Coefficient	0.02%/°C	
Vibration	2.5G swept sine, 10–2000Hz, 1 octave/min, 3 axis, 1 hour each	
Shock	20g, 11ms, 3 axis.	

GENERAL SPECIFICATIONS

Means of Protection		
Primary to Secondary	2MOPP (Means of Patient Protection)	
Primary to Ground	1MOPP (Means of Operator Protection)	
Secondary to Ground	Operational Insulation/Consult factory for 1MOPP)	
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)	Isolated. Contact closure 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.	
Standby Power (optional) ⁽¹⁹⁾	Isolated 5 Vdc ± 10%, 10 mA available only with Remote Inhibit option.	
Remote Sense ⁽¹⁰⁾	400mV compensation of output cable losses	
Mean-Time Between Failures	100,000 Hours min., MIL-HDBK-217F, 25° C, GB	
Weight	1.40 Lbs. Open Frame/ 2.15 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	



CONNECTOR SPECIFICATIONS

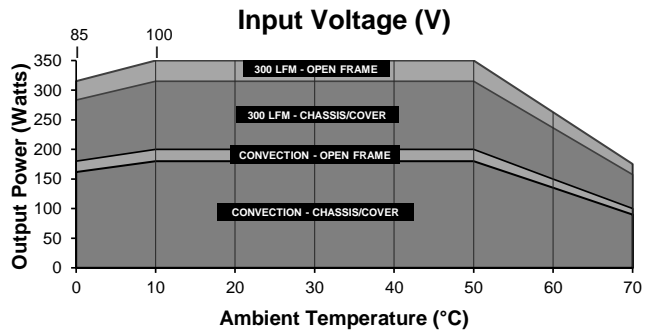
<p>P1</p> <p>NEUTRAL</p> <p>LINE</p>	<p>AC Input</p> <p>0.156 friction lock header mates with Molex 09-50-3031 or equivalent crimp terminal housing with Molex 2478 or equivalent crimp terminal.</p>
<p>P2</p> <p>OUTPUT 1 (+)</p> <p>OUTPUT 1 (+)</p>	<p>DC Output</p> <p>6-32 screw down terminal mates with #6 ring tongue terminal. (10 in-lb Max)</p>
<p>P3</p> <p>SHARE BUS</p> <p>P.F. SIG (+)</p> <p>SENSE (-)</p> <p>SENSE (+)</p>	<p>Power Fail, 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 crimp equivalent terminal.</p>
<p>P4</p> <p>INHIBIT</p> <p>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>Ground</p>	<p>0.187 quick disconnect terminal.</p>

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- Continuous Output Power must not exceed 350W or maximum power per model listing.
- 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 (page 58) for additional load-share applications information.
- 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 1004 thru 1008 only. 350W 300LFM forced air, open frame. 200W convection cooled open frame. Derate 10% with chassis and cover. Derate 1.5W_{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. Refer to model listing for all ratings.

TYPICAL LOAD SHARE/REMOTE SENSE APPLICATION

