225 WATTS

SINGLE OUTPUT AC-DC

NXT-225

FEATURES:

- **Compact 3.0" x 5.0" 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

c UL us	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
IECEE CB SCHEME	CB Reports/Certificates (including all National and Group Deviations)	IEC 62368-1:2014, 2nd Edition IEC 60601-1:2005/A1:2012
TUV SUD	TUV SUD America	EN 62368-1:2014, 2nd Edition EN 60601-1:2006/A1:2013
CE	Low Voltage Directive RoHS Directive (Recast)	(2014/35/EU of February 2014) (2015/863/EU of March 2015)
UK CA	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

	OPEN FRAME		CHASSIS/COVER	
MODEL	300 LFM	CONVECTION COOLED	300 LFM	CONVECTION COOLED
NXT-225-1001	2.5V/53.0A	2.5V/30.0A	2.5V/47.7A	2.5V/27.0A
NXT-225-1002	3.3V/53.0A	3.3V/30.0A	3.3V/47.7A	3.3V/27.0A
NXT-225-1003	5V/45.0A	5V/30.0A	5V/40.5A	5V/27.0A
NXT-225-1004	12V/18.8A	12V/12.5A	12V/16.9A	12V/11.3A
NXT-225-1005	15V/15.0A	15V/10.0A	15V/13.5A	15V/9.0A
NXT-225-1006	24V/9.4A	24V/6.3A	24V/8.5A	24V/5.7A
NXT-225-1007	28V/8.0A	28V/5.4A	28V/7.2A	28V/4.9A
NXT-225-1008	48V/4.7A	48V/3.1A	48V/4.2A	48V/2.8A
NXT-225-1009[1]	56V/4A	56V/2.7A	56V/3.6A	56V/2.4A

Please refer to Output Power Derating chart.

1. Approved to 62368-1 only.

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/225W unless otherwise stated, may vary by model and are subject to change without notice.

OUTPUT SPECIFICATIONS

Output Power at 50°C(1)	150W	Convection Cooled, Open Frame
(See Derating Chart)	225W	300LFM Forced-Air Cooled(15)
Power Derating	1.5 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 Pout, cycle on/off, auto recovery	
Hold Up Time	16m 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 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	10,000 ft. ASL Operating/ 40,000 ft. ALS Non-Operating
Temperature Coefficient	0.02%/°C
Vibration	2.5g, 10Hz. -2KHz per MIL-STD-810F Method 516.5
Shock	20g, peak per MIL-STD-810F Method 516.5

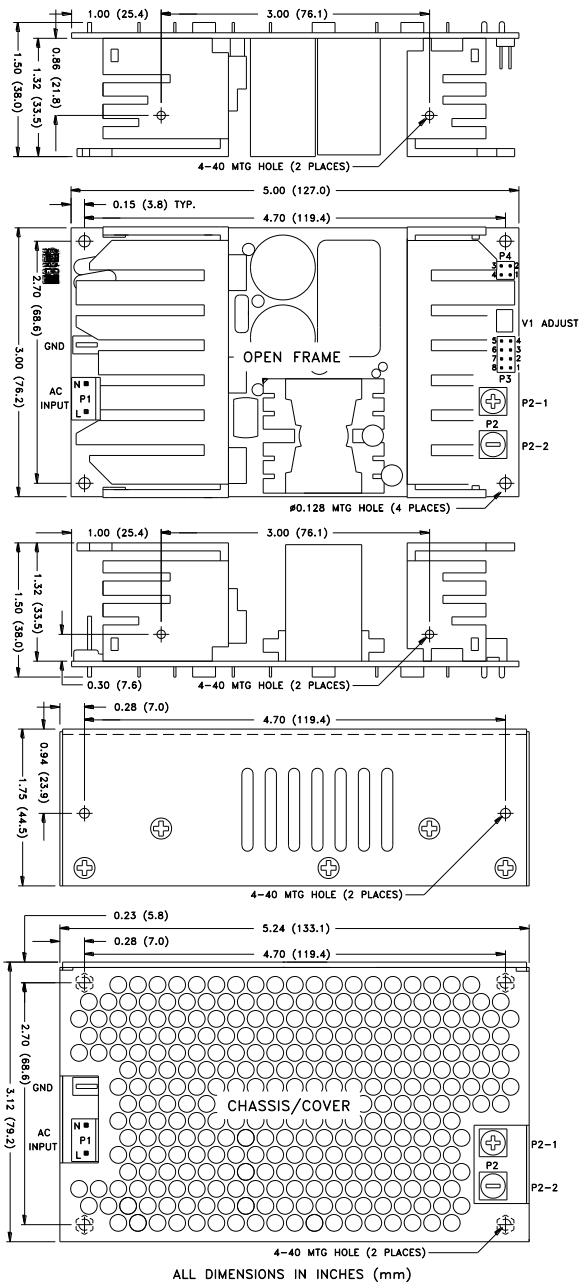
GENERAL SPECIFICATIONS

Means of Protection	
Primary to Secondary	2MOPP (Means of Patient Protection)
Primary to Ground	1MOOP (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	0.98 Lbs. Open Frame/ 1.50 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	

NXT-225 SERIES MECHANICAL SPECIFICATIONS



ALL DIMENSIONS IN INCHES (mm)

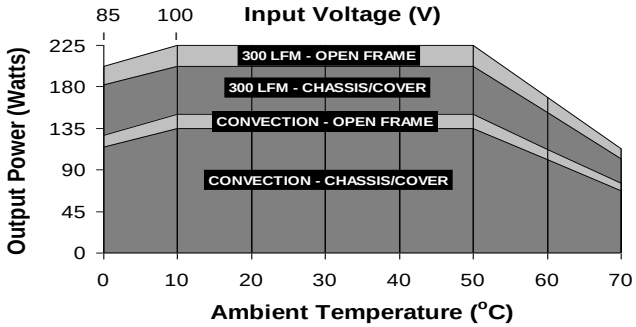
CONNECTOR SPECIFICATIONS

P1 NEUTRAL LINE	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 OUTPUT 1 (-) OUTPUT 1 (+)	DC Output	6-32 screw down terminal mates with #6 ring tongue terminal. (10 in-lb Max)
P3 SHARE BUS 5 — 4 ENABLE P.F. SIG (+) 6 — 3 P.F. RTN SENSE (-) 7 — 2 OUTPUT 1 (-) SENSE (+) 8 — 1 OUTPUT 1 (+)	Power Fail, Load Share, 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 3 — 2 INHIBIT RTN STBY PWR (+) 4 — 1 STBY RTN (-)	Inhibit, Standby Power	0.100 friction lock header mates with Molex 22-55-2041 or equivalent crimp terminal housing with Molex 71851 or equivalent crimp terminal.
⏚	Ground	0.187 quick disconnect terminal.

APPLICATIONS INFORMATION

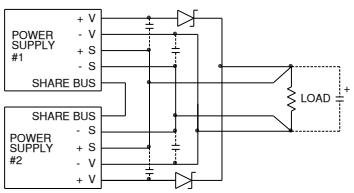
1. Continuous Output Power must not exceed 225W.
2. Generally, adequate cooling is provided when semiconductor case temperatures do not exceed 70°C rise and transformer temperature does not exceed 60°C rise at any specified ambient temperature.
3. Sufficient area must be provided around power supply 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. A minimum load of 10% is required on Output 1 to ensure proper regulation of remaining outputs.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. Maximum screw penetration into bottom chassis mounting holes is 0.100 inches. Maximum screw penetration into side chassis mounting holes is 0.250 inches.
12. 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.
13. Common RF shielding precautions may need to be taken to assure emissions compliance. Refer to Operating Instructions for additional information.
14. 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.
15. 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.
16. 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.
17. Current-carrying conductors in load-sharing applications must be short and symmetrical.
18. Refer to Load-Share Evaluation Board data sheet (page 58) for additional load-share applications information.
19. 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. 225W 300LFM forced air, open frame. 150W 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.

TYPICAL LOAD SHARE/REMOTE SENSE APPLICATION



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