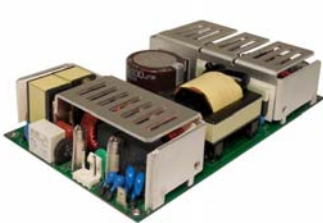


# 400 WATTS

## NXT-400M MULTI OUTPUT AC-DC

### FEATURES:

- RoHS Compliant
- 3 Year Warranty
- Advanced SMT Design
- Regulated and Adjustable Outputs
- 90% Peak Efficiency
- 87% Average Efficiency
- Excellent Light Load Efficiency
- -20 to +70°C Operating Temp.
- Compact 4.0" x 7.0" x 1.5" Size
- EN 60950-1 ITE Certification
- EN 62368-1 Certification
- EN 60601-1 3<sup>rd</sup> ed. Medical (BF)
- EN 60601-1-2 4<sup>th</sup> ed. EMC
- Optional Chassis/Cover
- 5V/2A Standby Output
- <300mW Standby Input Power








OPEN FRAME



CHASSIS/COVER

### SAFETY SPECIFICATIONS

General	Protection Class: I
	Oversvoltage Category: II
	Pollution Degree: 2
 Underwriters Laboratories File E137708/E140259	UL 60950-1:2007, 2 <sup>nd</sup> Edition UL 62368-1:2014, 2 <sup>nd</sup> Edition AAMI/ANSI ES6060-1, 2005 (R) 2012
	CB Reports/Certificates (including all National and Group Deviations) IEC 60950-1/A2:2013, 2 <sup>nd</sup> Edition IEC 62368-1:2014, 2 <sup>nd</sup> Edition IEC 60601-1:2005/A1:2012
 UL Recognition Mark for Canada File E137708/E140259	CAN/CSA-C22.2 No. 60950-1-07, 2 <sup>nd</sup> Edition CAN/CSA-C22.2 No. 62368-1-14 CAN/CSA-C22.2 No. 60601-1:2014
	TUV EN 60950-1/A2:2013, 2 <sup>nd</sup> Edition EN 62368-1:2014, 2 <sup>nd</sup> Edition EN 60601-1:2006/A1:2012
	Low Voltage Directive (2014/35/EU of February 2014) RoHS Directive (Recast) (2011/65/EU of June 2011)

### MODEL LISTING

MODEL	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4
NXT-400M-4001	+3.3V/50A	+3.3-5V/15A	+12-15V/5A	-12-15V/5A
NXT-400M-4002	+5V/50A	+3.3-5V/15A	+12-15V/5A	-12-15V/5A
NXT-400M-4003	+5V/50A	+12-15V/10A	+12-15V/5A	-12-15V/5A
NXT-400M-4004	+5V/50A	+24-28V/5A	+12-15V/5A	-12-15V/5A
NXT-400M-3001	+5V/50A	+12-15/10A		-12-15V/5A
NXT-400M-2001	+5V/50A	+24-28V/5A		
NXT-400M-2002	+5V/50A	+12-15V/10A		
NXT-400M-2003	+12V/25A	-12-15V/10A		
NXT-400M-2004	+15V/20A	-12-15V/10A		

### ORDERING INFORMATION

Other output configurations available (consult factory)  
Please specify output voltage set points when ordering.  
Please specify the following optional features when ordering:

CH-Chassis	I/O-Isolated Outputs
CO-Cover	PF-Power Fail Warning
RE/SB- Remote Inhibit/Standby Output	BF-Type BF

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

# Advance Product Bulletin

## OUTPUT SPECIFICATIONS

Output Power at 50°C	200W	Convection Cooled, Open Frame
(See Derating Chart)	400W	300 LFM Forced Air, Open Frame
Voltage Centering	Outputs 1-4: ±0.5%	(All outputs at 50% load)
Voltage Adjust Range	Outputs 1: 95-105%	
	Outputs 2-4: 90-110% <sup>(2)</sup>	
Load Regulation	Outputs 1: ±0.5%	(10-100% load change) <sup>(5)</sup>
	Outputs 2-4: ±1.0%	(0-100% load change)
Source Regulation	Outputs 1-4: 0.5%	
Cross Regulation	Outputs 2-4: 1.0%	
Ripple & Noise	Outputs 1-4	Greater of 1.0% or 100mV p-p, 20MHz
Turn On Overshoot	None	
Transient Response	Output recovers to within 1% of initial set point due to a 50-100-50% step load change, 1ms maximum, 4% maximum deviation.	
Overvoltage Protection	Latching, Output 1, 110% and 150% of rated output Voltage.	
Overpower Protection	110%-150% rated P <sub>OUT</sub> , cycle off/on, auto recovery	
Hold-Up Time	16 ms minimum, full power, 115V input	
Start-Up Time	<1 sec., 115/230V input	
Output Rise Time	5 ms typical	
Minimum Load <sup>(4)</sup>	No minimum load required	
Remote Sense	400mV compensation of output cable losses (output1)	
Enable/Inhibit	Contact closure enables output. Available on output 1 with RE/SB option, standard on outputs 2-4	
Standby Output	Provides 5V/2A while all other outputs are Inhibited /off with RE/SB option	

## INPUT SPECIFICATIONS

Source Voltage	85 – 264 VAC (see derating chart)
Frequency Range	47 – 63 Hz
Input Protection	Dual internal 8A time delay fuses, 1500A breaking capacity
Peak Inrush Current	40A max
Peak Efficiency	90%
Average Efficiency	87% (Avg. of 25%, 50%, 75% and 100% rated load)
No Load Input Power	<300mW (with RE/SB option) <500mW (with RE/SB and PF option)

## ENVIRONMENTAL SPECIFICATIONS

Ambient Operating Temp. Range	-20° C to + 70° C, Derating: (see derating chart)
Ambient Storage Temp. Range	- 40° C to + 85° C
Operating Relative Humidity Range	20-90% non-condensing
Altitude	3,000m ASL Operating (5,000m consult factory)
Temperature Coefficient	0.02%/°C
Vibration	2.5G swept sine, 10-2000Hz, 1 octave/min, 3 axis, 1 hour each
Shock	20g, 11 ms, 3 axis.

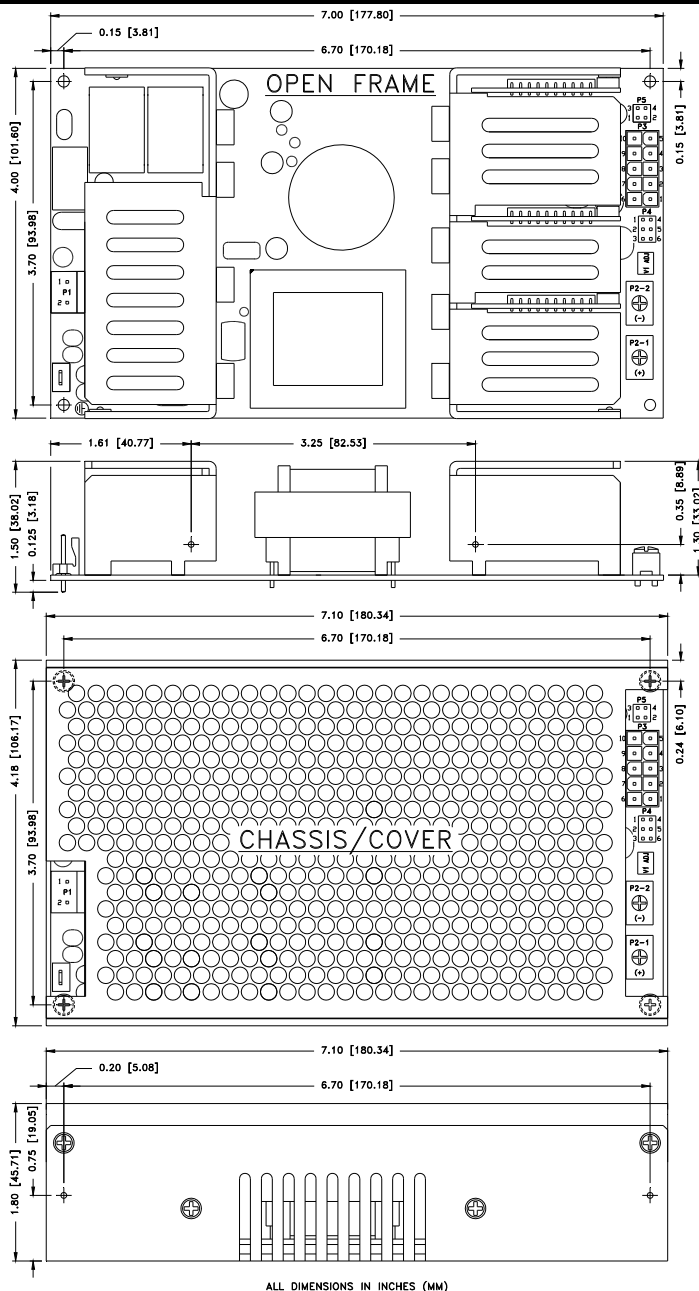
## GENERAL SPECIFICATIONS

Means of Protection	
Primary to Secondary	2MOPP (Means of Patient Protection)
Primary to Ground	1MOPP (Means of Patient Protection)
Secondary to Ground	Operational Insulation (1MOPP w/ Option BF)
Dielectric Strength <sup>(12,13)</sup>	
Reinforced Insulation	5656VDC (4000VAC) <sup>(13)</sup>
Basic Insulation	2121VDC (1500VAC) <sup>(13)</sup>
Operational Insulation	707VDC (500VAC) <sup>(13)</sup> /2121VDC (1500VAC) <sup>(13)</sup> w/ Option BF
Leakage Current	
Earth Leakage	<300uA NC, <1000uA SFC
Touch Current	<100uA NC, <500uA SFC
Patient Leakage Current	<100uA NC, <500uA SFC
Switching Frequency	PWM:133 KHz/PFC:Variable
Mean-Time Between Failures	>200,000 hours, MIL-HDBK-217F, 25° C, GB
Weight	1.7 lb. Open frame / 2.2 lb. Chassis and cover

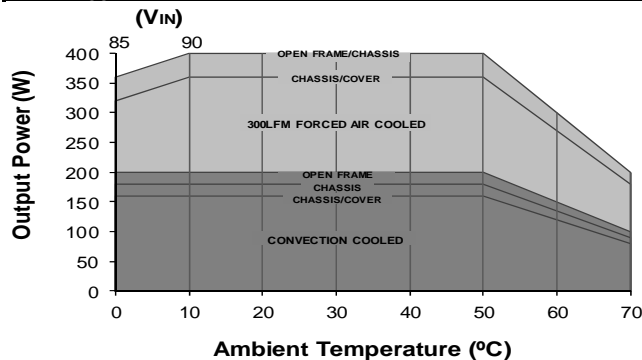
## EMC SPECIFICATIONS (IEC 60601-1-2:2016, 4<sup>TH</sup> ed./IEC 61000-6-2:2005)

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
EFT/Bursts	EN 61000-4-4	±2 KV, 5KHz/100KHz	A
Surges	EN 61000-4-5	±2 KV line to earth / ±1 KV line to line	A
Conducted Immunity	EN 61000-4-6	.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 <sub>r</sub> , 0.5 cycles@0-315° 100/240V A/A 0% U <sub>r</sub> , 1 cycles, 0° 100/240V A/A 40% U <sub>r</sub> , 12 cycles, 0° 100/240V B/A 70% U <sub>r</sub> , 30 cycles, 0° 100/240V B/A	
Voltage Interruptions	EN 61000-4-11	0% U <sub>r</sub> , 300 cycles, 0° 100/240V B/B	
Radiated Emissions	EN 55011/22	Class B	
Conducted Emissions	EN 55011/22	Class B	
Harmonic Current Emissions	EN 61000-3-2	Class A	
Voltage Fluctuations/Flicker	EN 61000-3-3	Complies	

## NXT-400M MULTI MECHANICAL SPECIFICATIONS

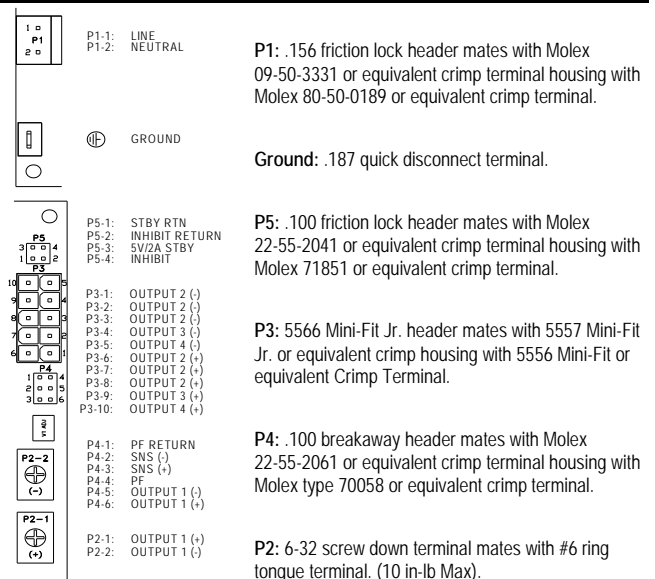


## MAX P<sub>OUT</sub> vs. AMBIENT TEMPERATURE/INPUT VOLTAGE

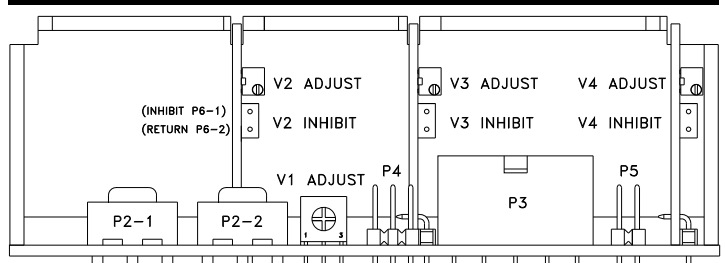


- Derate outputs 1 (3.3-5V) current rating 40% when convection cooled.
- Derate outputs 1 (12-15V) current rating 25% when convection cooled.
- Derate outputs 2 (3.3-15V) current rating 25% when convection cooled.
- Derate total output power linearly from 100% at 50° C to 50% at 70° C.
- Derate total output power linearly from 100% at 90V<sub>IN</sub> to 90% at 85V<sub>IN</sub> when forced air cooled.
- Derate total output power 10% when convection cooled using chassis or chassis/cover.
- Derate total output power 20% when convection cooled using chassis & cover (4001,4002 only).
- Derate total output power 10% when forced air cooled using chassis & cover.

## CONNECTOR SPECIFICATIONS



## OUTPUT VOLTAGE ADJUSTMENT LOCATIONS



## APPLICATIONS INFORMATION

- Each output can deliver its rated current but total output power must not exceed 400 Watts.
- Outputs 2, 3 and 4 are adjustable from -10% of its lowest voltage rating to +10% of its highest voltage rating.
- Forced air cooling requires airflow of 300 LFM minimum flowing one inch above all points of top side components or cover.
- Minimum load is not required for reliable operation however a 10% load is required on output 1 when loading outputs 2, 3 or 4 to full rated current.
- Sufficient area must be provided around power supply to allow natural movement of air to develop in convection cooled applications.
- 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.
- Power Fail (AC-good) feature provides a logic low warning signal from an open collector transistor output 10-15ms prior to loss of output from AC failure, 5V/10mA (4001:3.3V/10mA)
- RE/SB Option enables all outputs with a P5-4 to P5-2 switch closure, 6V Max/50mA.
- Output 2,3 and 4 inhibit feature shuts down only the output inhibit with a P6-1 to P6-2 switch closure, 45V Max.
- This product is intended for use as a professionally installed component within information technology, industrial and medical equipment and is not intended for standalone operation.
- 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), 20 MHz bandwidth.
- This product was type tested and safety certified using the dielectric strength test voltages listed in Table 6 of IEC60601-1:2005. 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 type test on the power supply or the end product. It is highly recommended that the DC test voltage listed in DVB.1, annex DVB of UL60601-1 1<sup>ST</sup> 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.
- Maximum screw penetration into bottom chassis mounting holes is .100 inches.
- Maximum screw penetration into side chassis mounting holes is .188 inches.
- Common RF shielding precautions may need to be taken to assure emissions compliance. Refer to operating instructions for additional information.
- To comply with emissions specifications, all four mounting hole pads must be electrically connected to a common metal chassis. Chassis/cover option is recommended.