400 WATTS

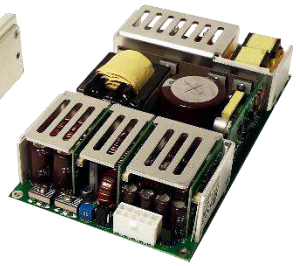
MULTI OUTPUT AC-DC

NXT-400M

FEATURES:

- **Compact 4.0" x 7.0" x 1.5" Size**
- **3 Year Warranty**
- **Universal 85-264V Input**
- **2-4 Regulated & Adjustable Outputs**
- **90% Peak/87% Average Efficiency**
- **<300mW No Load Input Power**
- **-20 to +70°C Operating Temperature**
- **RoHS Compliant**
- **IEC 60601-1 3rd ed. Medical Cert.**
- **IEC 60950-1 2nd ed. ITE Certification**
- **IEC 62368-1 2nd ed. Certification**
- **IEC 60601-1-2 4th ed. EMC**
- **Class B Emissions per EN55011/32**
- **Optional 5V/2A Standby Output**
- **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

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-4005	+24V/12.5A	-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

Consult factory for alternate output configurations.
Please specify output voltage set points when ordering.
Please specify the following optional features when ordering:

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

OUTPUT SPECIFICATIONS

Output Power at 50°C(1)	200W	Convection Cooled, Open Frame	
(See Derating Chart)	400W	300LFM Forced-Air Cooled, 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%(15)	
Load Regulation	Outputs 1:	±0.2%	(0-100% load change)
	Outputs 2-4:	±1.0%	(0-100% load change)
Source Regulation	Outputs 1-4:	0.2%	
Cross Regulation	Outputs 2-4:	0.2%	
Ripple & Noise	Outputs 1-4	1.0% or 100mV p-p, 20MHz BW	
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	Output 1, 110%- 150% of rated output voltage, latching.		
Overpower Protection	110%-150% rated POUT, cycle off/on, auto recovery.		
Hold-Up Time	16ms minimum, full power.		
Start-Up Time	<1 sec., 115/230V input.		
Output Rise Time	Output 1: 5ms typical. Outputs 2-4: 30ms typical.		
Minimum Load(5)	No minimum load required.		
Remote Sense(9)	Output 1: 250mV compensation of output cable losses.		
Enable/Inhibit (System)(16)	Contact closure enables all outputs with RE/SB option.		
Enable/Inhibit (Outputs 2, 3, 4)(17)	Contact closure inhibits individual output.		
Standby Output	Provides 5V/2A while all other outputs are Inhibited /off with RE/SB option.		

INPUT SPECIFICATIONS

Protection Class	I
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	Up to 90%
Average Efficiency	Up to 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) 12,192m ASL – Non-Operating
Temperature Coefficient	0.02%/°C
Vibration (MIL-STD-810G)	2.5G swept sine, 10-2000Hz, 1 octave/min, 3 axis, 1 hour each
Shock (MIL-STD-810G)	20g, 11 ms, 3 axis.

GENERAL SPECIFICATIONS

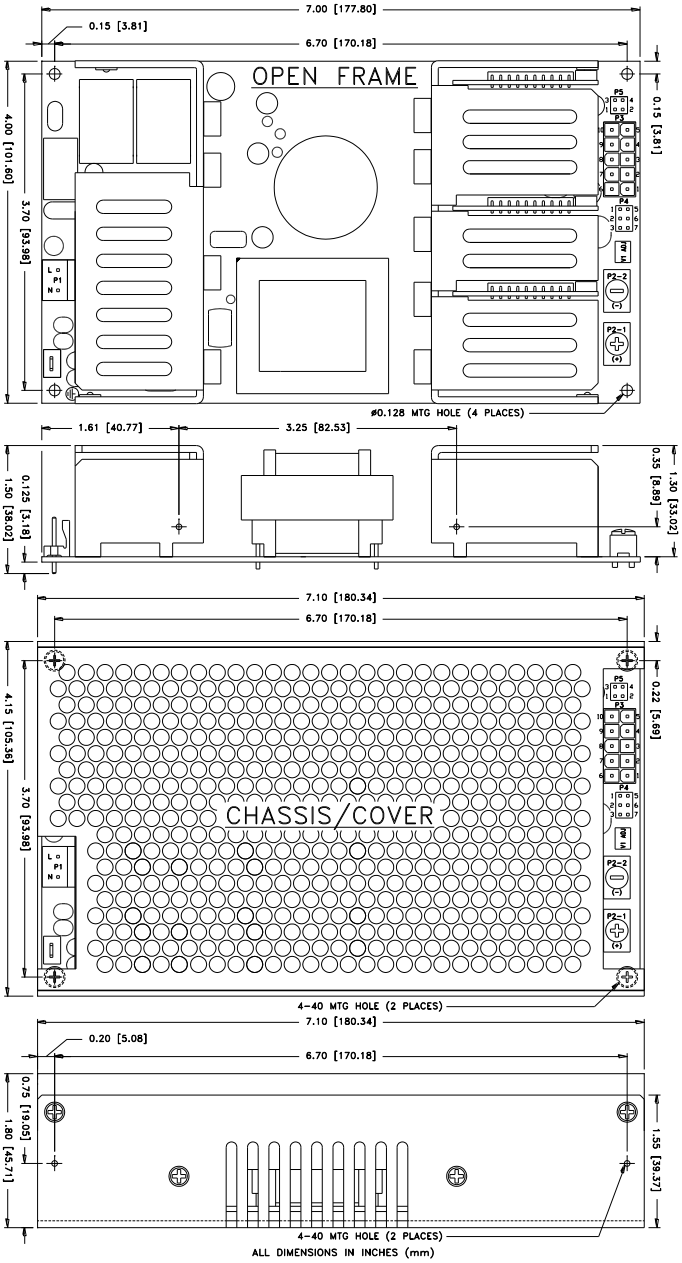
Means of Protection	
Primary to Secondary	2MOPP (Means of Patient Protection)
Primary to Ground	1MOPP (Means of Patient Protection)
Secondary to Ground	Operational Insulation (1MOPP w/ Option BF)
Dielectric Strength(7, 8)	
Reinforced Insulation	5656VDC (4000VAC)
Basic Insulation	2121VDC (1500VAC)
Operational Insulation	707VDC (500VAC)/2121VDC (1500VAC) w/ Option BF
Leakage Current	
Earth Leakage	<300µA NC, <1000µA SFC
Touch Current	<100µA NC, <500µA SFC
Patient Leakage Current	<100µA NC, <500µA SFC w/Option BF
AC Power Fail Signal	Logic low 10-15ms prior to V1 loss of regulation.
Switching Frequency	PWM:133 KHz/PFC:Variable
Mean-Time Between Failures	150,000 hours, MIL-HDBK-217F, 25°C, GB
Weight	1.7 lb. Open frame / 2.2 lb. Chassis and cover

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

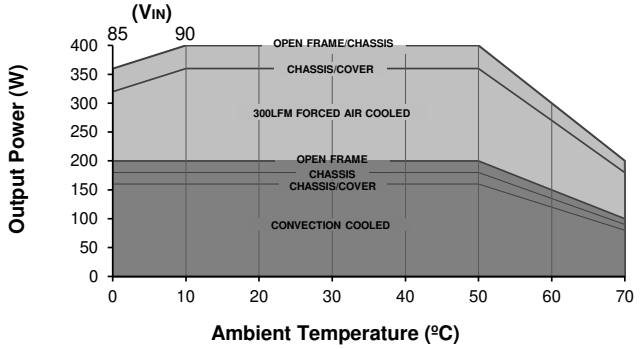
Electrostatic Discharge	EN 61000-4-2	±8KV contact / ±15KV air discharge	A
Radiated Electromagnetic Field	EN 61000-4-3	80MHz-2.7GHz, 10V/m, 80% AM	A
Electrical Fast Transients/Bursts	EN 61000-4-4	±2 KV, 5KHz/100KHz	A
Surge Immunity	EN 61000-4-5	±2 KV line to earth / ±1 KV line to line	A
Conducted Immunity	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% UT, 0.5 cycles, 0-315°	100/240V A/A
		0% UT, 1 cycles, 0°	100/240V A/A
		40% UT, 10/12 cycles, 0°	100/240V B/A
		70% UT, 25/30 cycles, 0°	100/240V B/A
Voltage Interruptions	EN 61000-4-11	0% UT, 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-400M MULTI MECHANICAL SPECIFICATIONS

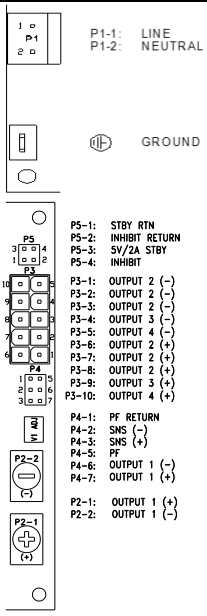


MAX P_{OUT} vs. AMBIENT TEMPERATURE/INPUT VOLTAGE



- 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 50ºC to 50% at 70ºC.
- Derate Total Output Power linearly from 100% at 90V_{IN} to 90% at 85V_{IN} 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



P1: 0.156 friction lock header mates with Molex 09-50-3031 or equivalent crimp terminal housing with Molex 08-50-0189 or equivalent crimp terminal.

Ground: 0.187 quick disconnect terminal.

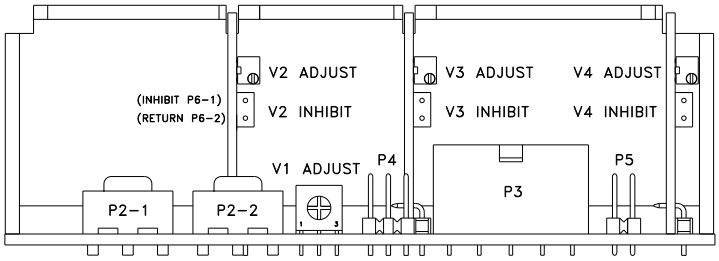
P5: 0.100 friction lock header mates with Molex 22-55-2041 or equivalent crimp terminal housing with Molex 71851 or equivalent crimp terminal.

P3: 5566 Mini-Fit Jr. header mates with 5557 Mini-Fit Jr. or equivalent crimp housing with 5556 Mini-Fit or equivalent Crimp Terminal.

P4: 0.100 breakaway header mates with Molex 22-55-2061 or equivalent crimp terminal housing with Molex type 70058 or equivalent crimp terminal.

P2: 6-32 screw terminal mates with #6 ring tongue terminal. (10 in-lb Max).

OUTPUT VOLTAGE ADJUSTMENT LOCATIONS



APPLICATIONS INFORMATION

1. Each output can deliver its rated current but Total 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. Minimum load is not required for reliable operation; however, a 5% load may be required on Output 1 when loading Outputs 2, 3 or 4 to full rated current.
6. Peak-to-Peak Output Ripple and Noise is measured directly at the output terminals, without the use of the probe ground lead or retractable tip (tip-and-barrel method), 20 MHz.
7. 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 ensure 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 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 250mV, 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 0.188 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 10-15ms prior to loss of output from AC failure, 5V/10mA (4001:3.3V/10mA).
14. 300LFM minimum of airflow must be maintained one inch above all points of top-side components or cover when forced-air cooling is required.
15. Outputs 2, 3 and 4 are adjustable from -10% of lowest voltage rating to +10% of highest voltage rating.
16. RE/SB Option enables all outputs with a P5-4 to P5-2 switch closure, 6V Max./50mA.
17. Output 2, 3 and 4 Inhibit feature shuts down only that output with a P6-1 to P6-2 switch closure, 45V Max.

REV. KKL 10/7/2022