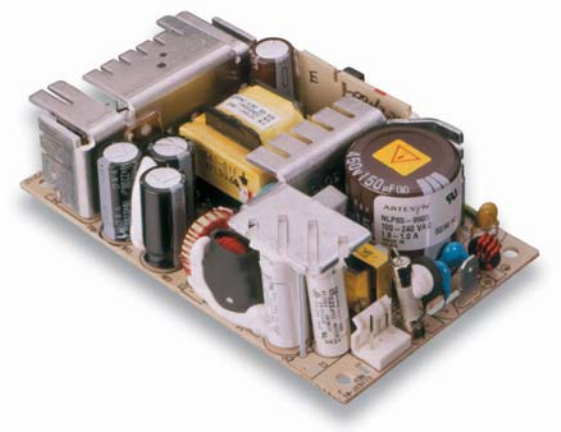
Rev.02.28.07
NLP65_3300

NLP65 Medical Series

Single, dual and triple output

Total Power: **65W**
Input Voltage: **85 - 264 VAC**
# of Outputs: **Single, dual, triple**



Special Features

- 85 VAC to 264 VAC universal input range
- Harmonic current correction as standard
- Maximum component height 1.26 inches
- UL, CSA and VDE safety approvals
- Overvoltage and short circuit protection
- 5 x 3 x 1.26 inch (127.0 x 76.2 x 32mm) footprint
- Available RoHS compliant
- 2 year warranty

Safety

VDE0705/EN60601-1/IEC1010
File No. 10401-3336-0156/32480
Licence No. 121949

UL1950 File No. E147937

CSA C22.2 No. 950
File No. LR41062C

The NLP65 Medical series is a 65 W universal input ac-dc power supply with input harmonic current correction as standard. This compact design, packed in a 5 x x3 inch card with a maximum component height of 1.26 inches, is ideal for use in a variety of medical, laboratory and dental applications such as centrifuges, incubators and infusion pumps. The NLP65 Medical series comprises of eight models in single, dual and triple output configurations. Providing 65 Watts of continuous output power with free air convection, the NLP65 Medical series will deliver 75 Watts output power with 20 CFM of air. The series, with full medical safety approval to EN60601 and UL2601, is CE marked, greatly accelerating design-in time and reducing system compliance costs.

ARTESYN®

EMERSON™
Network Power

Specifications

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

OUTPUT SPECIFICATIONS

Output power	Natural convection	65 W max.
Total regulation		See table
Rise time	At turn-on	1.0 s, max.
Transient response	Main output 25% step at 0.1 A/µs	5.0% max. dev., 1ms recovery to 1.0%
Temperature coefficient		±0.02%/°C
Overvoltage protection	Main outputs	125%, ±10%
Short circuit protection	Cyclic operation	Yes

INPUT SPECIFICATIONS

Input voltage range (See Note 2)	Universal input	85-264 Vac
Input frequency range		47-63 Hz
Input surge current (cold start)	120 Vac 230 Vac	17 A max. 32 A max.
Safety ground leakage current	264 Vac, 60 Hz	95 µA
Input current	120 Vac 230 Vac	1.05 A rms 0.51 A rms
Input fuse		250 Vac F 3.15 A

EMC CHARACTERISTICS

Conducted emissions	EN55022, FCC part 15	Level A
Radiated emissions	EN55022, FCC part 15	Level A
ESD air	EN61000-4-2, level 3	Perf. criteria 1
ESD contact	EN61000-4-2, level 4	Perf. criteria 1
Surge	EN61000-4-5, level 3	Perf. criteria 1
Fast transients	EN61000-4-4, level 3	Perf. criteria 1
Radiated immunity	EN61000-4-3, level 3	Perf. criteria 2
Conducted immunity	EN61000-4-6, level 3	Perf. criteria 2

GENERAL SPECIFICATIONS

Hold-up time	120 Vac, 60 Hz	16 ms @ 65 W
Efficiency	120 Vac, 65 W	72% typ.
Isolation voltage	Input/output Input/chassis	4000 Vac 1500 Vac
Switching frequency	Fixed	100 kHz, ±5 kHz
Approvals and standards		EN60601, UL2601 CSA 22.2 No. 125
Weight		283 g (10 oz)
MTBF	MIL-HDBK-217F	150,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating ambient, (See derating curve) Non-operating 0 ¡C to 50 ¡C ambient, convection cooled 50 ¡C to 70 ¡C ambient, convection cooled	0 °C to +70 °C -40 °C to +85 °C 65 W Derate to 50% load
Relative humidity	Non-condensing	5% to 95% RH
Altitude	Operating Non-operating	10,000 feet max. 30,000 feet max.
Vibration (See Note 5)	5-500 Hz	2.43 G rms approx.
Shock	per MIL-STD-810E	516.4 Part IV

Specifications Contd.

OUTPUT VOLTAGE	OUTPUT CURRENT			RIPPLE (4)	TOTAL REGULATION (6)	MODEL NUMBER (11,12)
	MAX (1)	PEAK	FAN (10)			
+5 V	7 A	9.1 A	8 A	50 mV	±2.0%	NLP65-9908J
+12 V	2.5 A	3.3 A	3 A	150 mV	±5.0%	
-12 V	0.5 A	0.81 A	1 A	120 mV	±5.0%	
+5 V	7 A	9.1 A	8 A	50 mV	±2.0%	NLP65-9910J
+15 V	2.2 A	2.9 A	2.5 A	150 mV	±5.0%	
-15 V	0.65 A	0.85 A	0.8 A	150 mV	±5.0%	
+5 V	7 A	9.1 A	8 A	50 mV	±2.0%	NLP65-9920J
+24 V	2 A	2.6 A	2 A	240 mV	±5.0%	
+5 V	7 A	9.1 A	8 A	50 mV	±2.0%	NLP65-9929J
+12 V	2.5 A	3.3 A	3 A	150 mV	±5.0%	
+5 V	10 A	13 A	12 A	50 mV	±2.0%	NLP65-9905J
+12 V	5.4 A	7 A	6.5 A	120 mV	±2.0%	NLP65-9912J
+15 V	4.4 A	5.7 A	5.3 A	150 mV	±2.0%	NLP65-9915J
+24 V	2.7 A	3.5 A	3.5 A	240 mV	±2.0%	NLP65-9924J

Notes

1 Natural convection cooling. Models NLP65-9929J, NLP65-9908J, NLP65-9910J must not exceed 62.5 Watts continuous output power with natural convection. Model NLP65-9920J not to exceed 65 Watts continuous output power with natural convection.

2 When the input voltage is less than 90 Vac the operating temperature range is 0 ° C to +40 °C. The ripple and regulation specifications may not be met.

3 Peak output current lasting less than 60 seconds with duty cycle less than 5%. During peak loading, output voltage may exceed total regulation limits.

4 Figure is peak-to-peak for convection power rating. Output noise measurements are made across a 20MHz bandwidth using a 6 inch twisted pair, terminated with a 10 µF electrolytic capacitor and a 0.1 µF ceramic capacitor.

5 Three orthogonal axes, random vibration 10 minutes for each axes, 2.4 G rms 5 Hz to 500 Hz.

6 To maintain stated regulation then:
for single output units
I ³ 0.2 A I max.
for multiple output units
0.25 ² I(A)/I(B) ² 5, for I(A) ³ 0.2 A I(A) max.

7 For optimum reliability, no part of the heatsink should exceed 120 °C, and no semiconductor case temperature should exceed 130 °C.

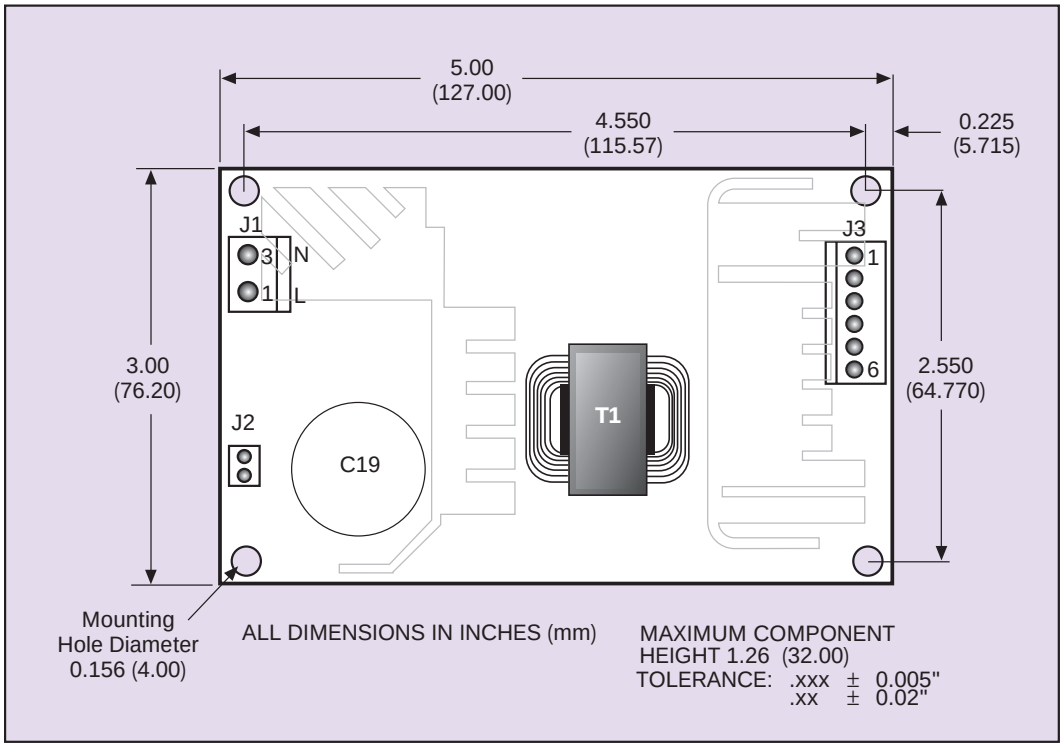
8 CAUTION: Allow a minimum of 1 second after disconnecting line power when making thermal measurements.

9 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.

10 Maximum continuous output power for all multiple output models must not exceed 75 Watts with 20 CFM forced air cooling at 50 °C.

11 The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant. TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.

12 NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at http://www.artesyn.com/powergroup/products.htm to find a suitable alternative.



Americas
5810 Van Allen Way
Carlsbad, CA 92008
USA
Telephone: +1 760 930 4600
Facsimile: +1 760 930 0698

Europe (UK)
Waterfront Business Park
Merry Hill, Dudley
West Midlands, DY5 1LX
United Kingdom
Telephone: +44 (0) 1384 842 211
Facsimile: +44 (0) 1384 843 355

Asia (HK)
16th - 17th Floors, Lu Plaza
2 Wing Yip Street, Kwun Tong
Kowloon, Hong Kong
Telephone: +852 2176 3333
Facsimile: +852 2176 3888

For global contact, visit:
www.powerconversion.com
technicalsupport@powerconversion.com

Emerson Network Power.
The global leader in enabling business-critical continuity.

- AC Power
- Connectivity
- DC Power
- **Embedded Power**
- Inbound Power
- Integrated Cabinet Solutions
- Outside Plant
- Precision Cooling
- Site Monitoring and Services

EmersonNetworkPower. com