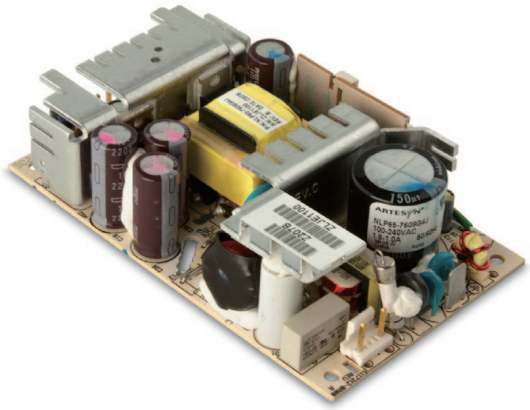
POWER

NLP65-M

Single, Dual and Triple output

Data Sheet

Total Power: 65 W
Input Voltage: 85-264 VAC
# of Outputs: Single, Dual, Triple



RoHS 6/6 COMPLIANT

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 years warranty

SAFETY

- UL60601-1/CAN/CSA-C22.2 No. 60601-1-M90
- VDE License No. 121949 under | EN60601-1/IEC60601-1

Electrical Specifications

Input		
Input voltage range:	Universal input (see Note 2)	85 - 264 Vac
Input frequency range:		47-63 Hz
Input 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 5 A
Output		
Output power:	Natural convection	65 W max.
Total regulation: (line and load)		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

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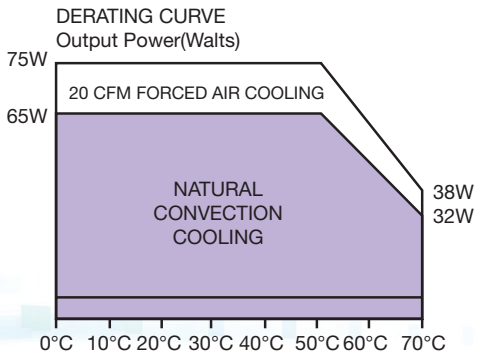
EMBEDDED TECHNOLOGIES

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

EMC Charateristics		
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% typical
Isolation voltage:	Input/output Input/chassis	4000 Vac 1500 Vac
Switching frequency:	Fixed	100 kHz, ± 5 kHz
Approvals and standards:	EN60601-1, IEC60601-1	
Weight:	283 g (10 oz)	
MTBF demonstrated:	MIL-HDBK-217F	150,000 hours

Environmental Specifications		
Thermal performance:	Operating (See derating curve)	0°C to +70°C
	Non-operating	-40°C to +85°C
	0°C to 50°C, ambient, convection cooled	65 W
	50°C - 70°C ambient, convection cooled	Derate to 50% load
	Peak (0°C to 50°C, 60 s)	See table
Relative humidity:	Non-condensing	5 to 95% RH
Altitude:	Operating	10,000 feet max.
	Non-operating	30,000 feet max.
Vibration (See Note 5):	5-500 Hz	2.4 G rms approx.
Shock	per MIL-STD-810E	516.4 Part IV



Ordering Information

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%	NLP65-9920J
+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%	
+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

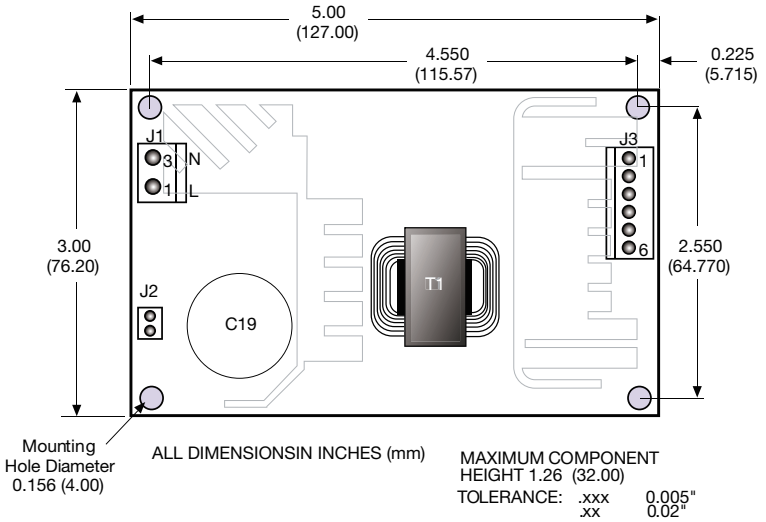
Notes

1. Natural convection cooling. Models NLP65-9929J, and NLP65-9908J 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 20 MHz 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 ≥ 0.2 A I max.

   For multiple output units: 0.25 ≤ I(A)/I(B) ≤ 5, for I(A) ≥ 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.
12. NOTICE: Some models do not support all options. Please contact your local Artesyn Embedded Technologies representative or use the on-line model number search tool at http://www.artesyn.com/power to find a suitable alternative.

Mechanical Drawings



Input Pin Connections

J1	
Pin 1	AC Line
Pin 2	No Pin
Pin 3	AC Neutral
J2	
Pin 1	Safety Ground

Output Pin Connections

J3	SINGLE	DUAL	TRIPLE
Pin 1	No Connection	V (B)	V (B)
Pin 2	V (A)	V (A)	V (A)
Pin 3	V (A)	V (A)	V (A)
Pin 4	Return	Return	Return
Pin 5	Return	Return	Return
Pin 6	No Connection	No Pin	V (C)

Input and Output Connectors		Mating Connectors
AC (J1)	Molex 26-60-4030 type or equivalent	Molex 09-50-3031 or equivalent with Molex 08-52-0113 or equivalent crimp terminals
DC (J3)	Molex 26-60-4060 or equivalent	Molex 09-50-3061 with Molex 2478 phosphor bronze crimp terminals or equivalent.

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