# NLP65-3334J

## Single output (adjustable)



LOW POWER AC/DC POWER SUPPLIES 50 W AC/DC Universal Input Switch Mode Power Supplies

- 5.0 x 3.0 inch card and 1.26 inch package (1U applications)
- Smallest industry standard package
- EN61000-3-2 compliance (HCC)
- Overvoltage and short circuit protection
- 50W with free air convection cooling
- EN55022, EN55011 conducted emissions level B
- EN61000-4-2,-3,-4, -5, -6 immunity compliant
- Adjustable output between 4.5 V and 5.5 V

#### Available RoHS compliant

The NLP65-3334J is a 50 W universal input ac-dc power supply on a 5 x 3 inch card with a maximum component height of 1.26 inches for use in 1U applications. This model has input harmonic current correction making the series ideal for product designs that will need to comply with EN61000-3-2 legislation. The NLP65-3334J provides 50 W of output power with free air convection cooling which can be boosted to 55 W with 20 CFM of air. The NLP65, with full international safety approval, meets conducted emissions EN55022 level B and has immunity compliance to EN61000-4-2,-3,-4, -5, -6. The NLP65 series is designed for use in low power data networking, computer and telecom applications such as hubs, routers, POS terminals, internet servers, cable modems and PABX's. This list is not exclusive as the generic feature set of the NLP65 series with industry standard output configurations provides a solution for most low power applications including many industrial applications.



#### **2 YEAR WARRANTY**

SPECIFICATIONS

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

#### OUTPUT SPECIFICATIONS

OUTPUT SPECIFICATIO	NS	
Total regulation	Line and load	±100 mV
Rise time	At turn-on	1.0 s, max.
Transient response	Main output 25% step at 0.1 A/µs	5.0% or 250 mV max. dev., 1 ms max. recovery to 1%
Temperature coefficient		±0.02%/°C
Overvoltage protection		6.25 V ±0.5 V
Short circuit protection	Cyclic operation	Yes, indefinite
Minimum output current	Single	(See Note 6)
INPUT SPECIFICATION	S	
Input voltage range (See Note 1)	Universal input	85-264 Vac 120-370 Vdc
Input frequency range		47-63 Hz
Input surge current (cold start)	110 Vac 230 Vac	17 A max. 32 A max.
Safety ground leakage current	110 Vac, 60 Hz 230 Vac, 50 Hz	0.7 mA 1.4 mA
Inrush current	230 Vac	32 A max.
Input current	110 Vac, with PF0 230 Vac, with PF0 110 Vac, without 230 Vac, without	C 0.51 A rms PFC 1.40 A rms
Input fuse	UL/IEC127	250 Vac S 3.15 A
EMC CHARACTERISTI	<b>CS</b> (11,12)	
Conducted emissions	EN55022 ECC par	rt 15 (Note 11) Level B

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

#### EMC CHARACTERISTICS (continued) (11,12)

Radiated immunity Conducted immunity Surge Fast transients Radiated immunity Conducted immunity	EN61000-4-3, level 3 EN61000-4-6, level 3 EN61000-4-5, level 2 EN61000-4-3, level 3 EN61000-4-3, level 3 EN61000-4-6, level 3	Perf. criteria 2 Perf. criteria 2 Perf. criteria 1 Perf. criteria 1 Perf. criteria 2 Perf. criteria 2
GENERAL SPECIFICAT	IONS	
Hold-up time	230 Vac, 50 Hz	78 ms @ 50 W
Efficiency		72% typical
Isolation voltage	Input/output Input/chassis	3000 Vac 1500 Vac
Switching frequency	Fixed	100 kHz, ±5 kHz
Approvals and standards (See Notes 9 and 12)		EN60950, UL1950, cUL equivalent of SA C22.2 No. 950
Weight		283 g (10 oz)
MTBF	MIL-HDBK-217F 1	50,000 hours min.
ENVIRONMENTAL SPE	CIFICATIONS	
Thermal performance (See Notes 1, 4 and 10)	Operating temperature Non-operating 50 °C to 70 °C ambien convection cooled Peak (0 °C to +50 °C,	-40 °C to +85 °C nt, 1.65 W/°C
Relative humidity	Non-condensing	5% to 95% RH
Altitude	Operating Non-operating	10,000 m max. 30,000 m max.
Vibration (See Note 5)	5-500 Hz	2.4 G rms peak
Shock	per MIL-STD-810E	516.4 Part IV

## NLP65-3334J



### Single output (adjustable)

#### LOW POWER AC/DC POWER SUPPLIES

IES 50 W AC/DC Universal Input Switch Mode Power Supplies

2

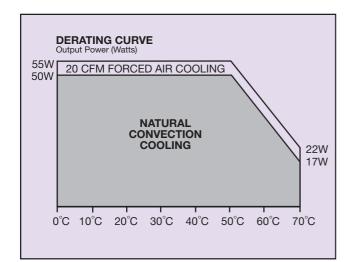
#### For the most current data and application support visit www.artesyn.com/powergroup/products.htm

OUTPUT	UT OUTPUT CURRENT		NT		OVP	MODEL	
VOLTAGE	MAX <sup>(4)</sup>	PEAK <sup>(2)</sup>	FAN <sup>(10)</sup>	· RIPPLE <sup>(3)</sup>	REGULATION (6)		NUMBER (13,14)
4.5-5.5 V	10 A	12 A	11 A	50 mV	±100 mV	$6.25 \text{ V} \pm 0.5 \text{ V}$	NLP65-3334J

#### Notes

- 1 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.
- 2 Peak output current lasting less than 60 seconds with duty cycle less than 5%. During peak loading, output voltage may exceed total regulation limits.
- 3 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.
- 4 Maximum continuous output power must not exceed 50 W.
- 5 Three orthogonal axes, random vibration 10 minutes for each axes, 2.4 G rms 5 Hz to 500 Hz.
- 6 Minimum load: 1 A.
- 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.

	INPUT	OUTPUT PIN CONNECTIONS	
PIN CONNECTIONS		J3 TRIPLE	
	J1	Pin 1	+5V
Pin 1	AC Line	Pin 2	+5V
Pin 2	No Pin	Pin 3	+5V
Pin 3	AC Neutral	Pin 4	Return
	J2	Pin 5	Return
Pin 1	Safety Ground	Pin 6	Return



- 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 this model must not exceed 55 Watts with 20 CFM forced air cooling.
- 11 For system EMI compliance the unit must be mounted within a metal chassis.
- 12 All models require a minimum mounting stand-off of 0.25 inches (6.35 mm) in the end use product.
- 13 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.
- 14 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.

#### Input and output connectors

AC (J1) connector type Molex 26-60-4030 type.

#### Mating connectors

AC (J1) mating connector type Molex 09-50-3031 or equivalent with Molex 08-50-0105 or equivalent crimp terminals.

DC (J3) connector type Molex 26-60-4060 type. DC (J3) mating connector type Molex 09-50-3061 with Triurcon 6838 or equivalent crimp terminals.

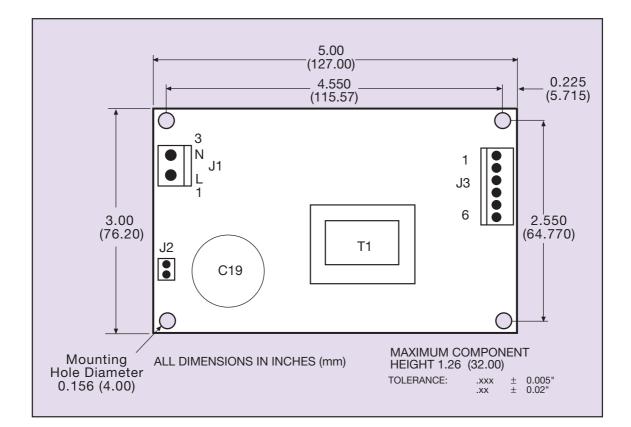
## NLP65-3334J



### Single output (adjustable)

LOW POWER AC/DC POWER SUPPLIES 50 W AC/DC Universal Input Switch Mode Power Supplies

For the most current data and application support visit www.artesyn.com/powergroup/products.htm



#### **International Safety Standard Approvals**

VDE0805/EN60950/IEC950 File No. 1040100-3336-0096 æ Licence No. 114404

CUL, UL1950 File No. E136005

#### Datasheet © Artesyn Technologies® 2005

The information and specifications contained in this datasheet are believed to be correct at time of publication. However, Artesyn Technologies accepts no responsibility for consequences arising from printing errors or inaccuracies. Specifications are subject to change without notice. No rights under any patent accompany the sale of any such product(s) or information contained herein.

www.artesyn.com