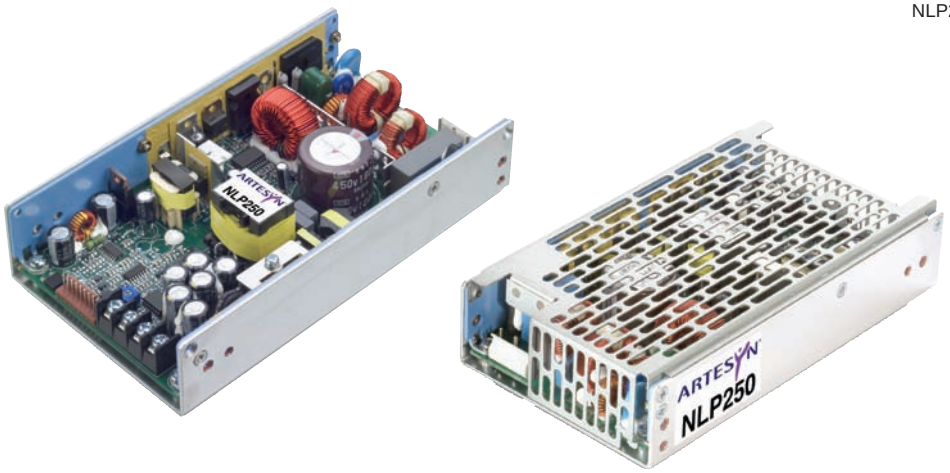
NLP250 Series
Single Output

Total Power: 250 W
Input Voltage: 85 - 264 Vac
# of Outputs: Single



RoHS 2002/95/EC

Special Features

- Active PFC and EN61000-3-2 compliant
- 250 W on main channel with forced air
- Low profile fits 1U applications
- U-Channel for maximum thermal performance
- Optional cover (CJ suffix)
- 5 V standby output
- 12 V fan output
- Integrated ORing diode
- Active current sharing
- Integrated control and monitoring features
- Overcurrent, overvoltage and overtemperature protection
- Compliance to EN55022-B conducted noise standard
- RoHS compliant
- 2 year warranty

Safety

- VDE0805/EN60950-1
  IEC950/IEC60950-1
  File No. 1177400-3336-0759
- UL/cUL 60950-1
  CSA-C22.2 60950-1
  File No. E135734
- Certificate No. 40014041
- CB Ref DE1-32468

Electrical Specifications

Input		
Input voltage range:	Universal input	85 - 264 Vac
Input frequency range:		47 - 63 Hz
Input surge current:	264 Vac (cold start)	40 A max.
Safety ground leakage current:	264 Vac, 50 Hz	1 mA
Input current:	120 Vac @ 250 W 230 Vac @ 250 W	2.78 A rms 1.36 A rms
Input fuse:	UL/IEC127	T6.3 AH, 250 Vac
Output		
Maximum power:	200 LFM forced air 250 LFM with cover	250 watts
Adjustment range:	Main output	± 5%
Total regulation: (line and load)	Main output Auxiliary outputs	± 2.0% ± 5.0%
Turn-on delay:	@ 120 Vac Input	2.0 s max.
Transient response:	Main output 50 - 100% Step at 0.5 A/µs	5.0% or 250 mV max. dev., 1 ms max recovery to 1%
Temperature coefficient:		±0.02%/°C
Overvoltage protection:	Main output	115%, ± 5%
Short circuit protection:	Cyclic operation	Continuous
Minimum output current:	Singles	0 A
Auxiliary outputs: (See Note 8)	5 Vsb 12 V (fan)	5 V @ 1.0 A 12 V @ 0.3A

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

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EMC Characteristics [5]		
Conducted emissions:	EN55022, FCC part 15	Level B
Harmonic current correction:	EN61000-3-2	Compliant
Voltage flicker:	EN61000-3-3	Compliant
ESD air:	EN61000-4-2	Level 3
ESD contact:	EN61000-4-2	Level 3
Radiated immunity:	EN61000-4-3	Level 3
Fast transients:	EN61000-4-4	Level 3
Surge:	EN61000-4-5	Level 3
Conducted immunity:	EN61000-4-6	Level 3
General Specifications		
Hold-up time:	85 Vac @ 50 Hz	20 ms @ 250 W
Efficiency:	115 Vac @ 250 W 230 Vac @ 250 W	84% typ. 86% typ.
Isolation voltage:	Input/output Input/chassis	3000 Vac 1500 Vac
Safety approvals (see note 6):	UL/cUL UL60950-1, VDE EN60950-1, CAN/CSA22.2 No. 60950-1	
Weight:		650g (22 oz)
MTBF (@25 ºC):	Telcordia SR-332 MIL-HDBK-217F	317,000 hours min. 158,000 hours min.

Environmental Specifications

Thermal performance:	Operating ambient,	0 °C to +70 °C
	(See derating curve)	
	Non-operating	-40 °C to +85 °C
	0 °C to 50 °C ambient,	250 W
	200 LFM forced air 250 LFM with cover	
	0 °C to 50 °C ambient, 0 °C to 40 °C with cover	175 W
	Convection cooled	
	50 °C to 70 °C ambient,	Derate linearly
	Convection cooled	to 50% load
Relative humidity:	Non-condensing	5 - 95% RH
Altitude:	Operating	10,000 feet max.
	Non-operating	30,000 feet max.
Vibration: (See Note 7)	5-500 Hz	2.5 G rms peak
Shock:	Per MIL-STD-810E	516.4 Part IV

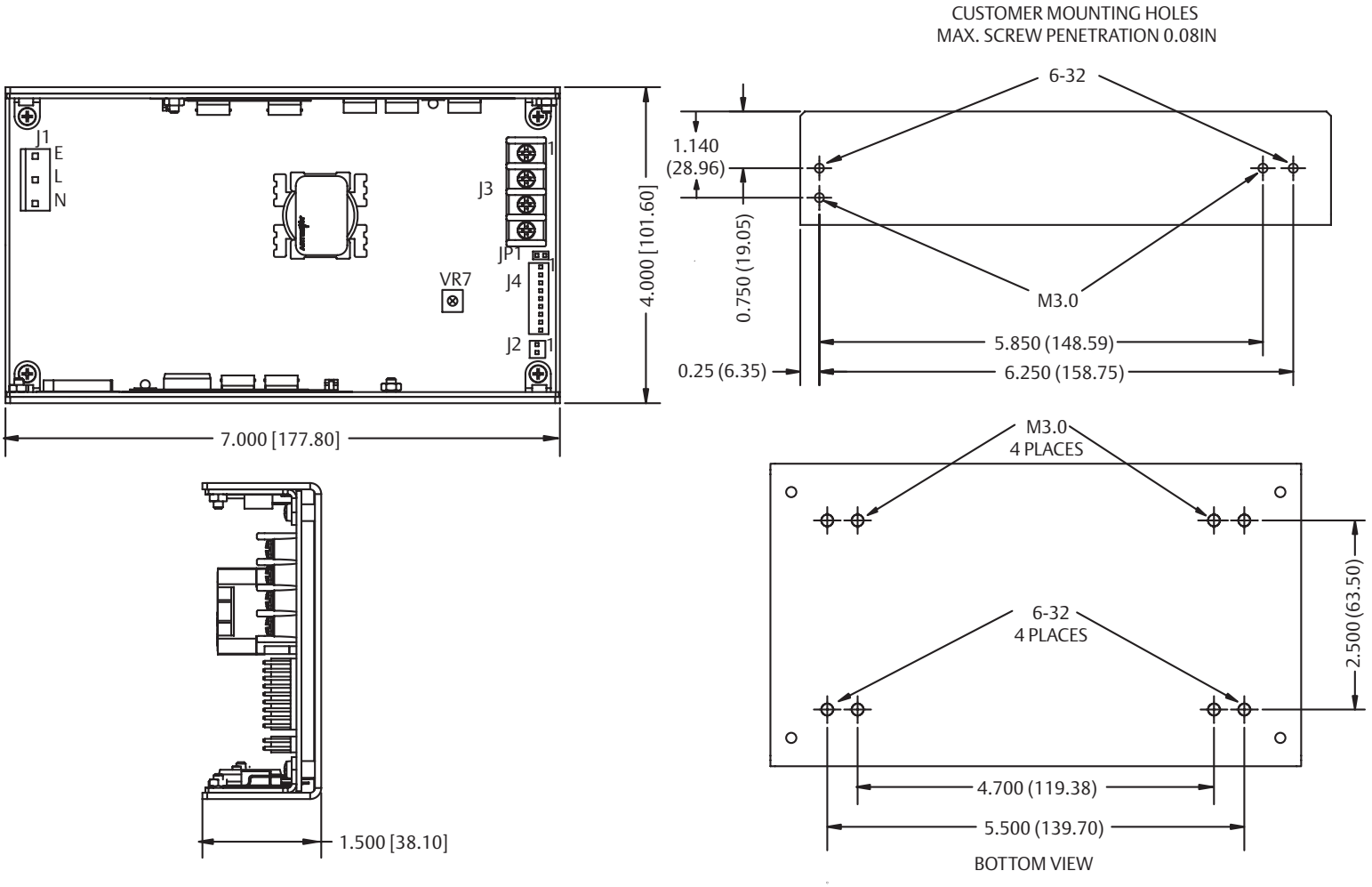
Ordering Information

Output Voltage	Output Current			Ripple (3)	Total Regulation	Model Numbers (9, 10)
	Min	Max (free air) (1,4)	Max (forced air) (2,4)			
12 V	0 A	14.6 A	21 A	120 mV	± 2.0%	NLP250R-96S12J
24 V	0 A	7.3 A	10.5 A	240 mV	± 2.0%	NLP250R-96S24J
48 V	0 A	3.65 A	5.25 A	480 mV	± 2.0%	NLP250R-96S48J

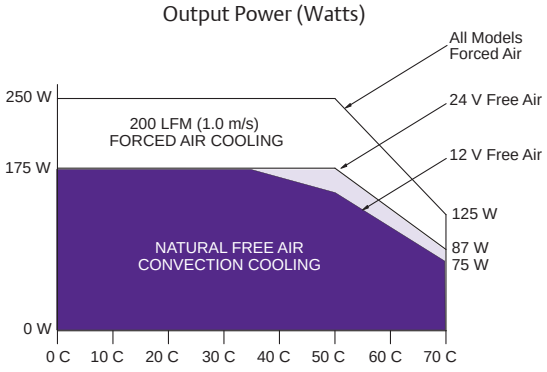
Notes

1 Free air convection. Maximum continuous output power not to exceed 175 W. Refer to Figure 1 for the derating curve.
2 200 LFM (250 LFM with cover) forced air cooling from the longer side. Maximum continuous output power not to exceed 250 W.
3 Figure is peak-to-peak for room temperature rating. Output noise measurements are made across a 20 MHz bandwidth using a 6 inch twisted pair, terminated with a 10 µF tantalum capacitor and a 0.1 µF ceramic capacitor.
4 CAUTION: Allow a minimum of 1 second after disconnecting line power when making thermal measurements. For optimum reliability no part of the heatsink should exceed 115 °C and no semi-conductor case temperature should exceed 120 °C.
5 No external filtering required during conducted emissions testing but some applications may require additional filtering to achieve system compliance. Compliance with radiated EMI specifications may require mounting in a suitable enclosure.
6 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
7 Three orthogonal axes, random vibration 10 minutes for each axes, 2.4 G
8 5 Vsb (standby) output is available whenever AC is present, regardless of remote ON/OFF signal status. 12 V (fan) present when main output is present.
9 The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant. "CJ" suffix indicates covered RoHS version.
10 NOTICE: Some models do not support all options. Please contact your local Emerson Network Power representative or use the on-line model number search tool at http://www.PowerConversion.com to find a suitable alternative.

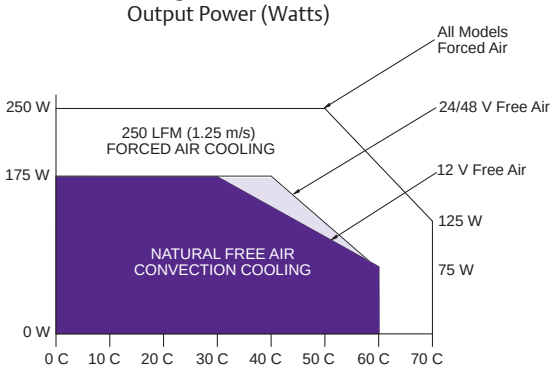
Mechanical Drawing



Derating Curve
Output Power (Watts)



Derating Curve With Cover
Output Power (Watts)



Connector and Mating Connector Types		
Connector	Type	Mating Connector Type
J1	Molex 09-65-2058 (5273 series)void pins 2 and 4 or equivalent	Molex 09-50-8051 or equivalent with Molex 08-52-0113 or equivalent crimp terminals
J2	Molex 22-23-2021 (6373 series) or equivalent	Molex 22-01-3027 (2695 series) or equivalent with Molex 08-50-01113 (2759 series) or equivalent crimp terminals
J3	Molex terminal block 387007504 or equivalent	Terminal block contains #6-32 screw with clamp washer suitable for wire size 12-22 awg (0.5-2.5 mm^2). Max Torque tp 1.36 Nm (12 in.lb)
J4	Molex 22-23-2091 (6373 series) or equivalent	Molex 22-01-3097 (2695 series) or equivalent with Molex 08-50-0113 (2759 series) or equivalent crimp terminals

Pin Connections	
J1	
Pin 1	Ground/Earth
Pin 2	Live
Pin 3	Neutral

Pin Connections Continued		
J2		
Pin 1	+12 V	Fan Voltage
Pin 2	SGND	Return
J3		
Pin 1	Vo	+ Main Output
Pin 2	Vo	+ Main Output
Pin 3	RTN	Main Return
Pin 4	RTN	Main Return
J4		
Pin 1	+S	+Vo Remote Sense
Pin 2	-S	Vo Remote Sense
Pin 3	LS	Load Share Signal
Pin 4	PS OFF	Remote ON/OFF signal NO
Pin 5	PS ON	Remote ON/OFF signal NC
Pin 6	SGND	Signal Common
Pin 7	PW OK	Power Good
Pin 8	5 Vsb	Stand-by Voltage
Pin 9	DC OK	DC Power Good Signal

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