

# N2POWER XL160 AC-DC SERIES

ULTRA SMALL, HIGH EFFICIENCY POWER SUPPLIES

### POWER SUPPLY DESIGN LEADER

N2Power continues to lead the power density race with its new small, high efficiency XL160 Series AC-DC power supplies. Our patented technology yields a very small footprint, reduces wasted power, and offers the highest power density in the marketin the 160 watt range. This unique design means reduced energy costs, a greater return on your investment, higher reliability and longer product life.

### **HIGHLIGHTS**

- 160 W AC-DC
- Up to 90% Efficiency
- High Power Density: 8.5 W / in3
- Universal AC input
- Active PFC (90-264 VAC)
- Built in OR-ing Diodes for N+1 (Optional)
- 3" X 5" Small Footprint
- <1U High: 1.25"</li>
- No Load Operation
- RoHS Compliant

## PFC READY. SAVE ENERGY

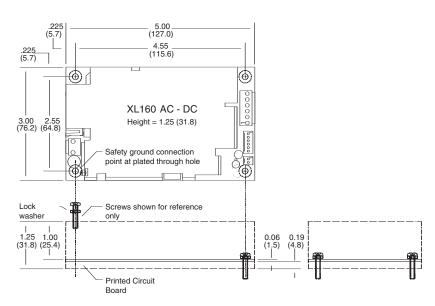
All XL160 products incorporate active PFC technology with universal input to provide superior efficiency each supply. Comparisons of power loading show that our supplies can reduce consumption up to 50%.

# **UNMATCHED POWER DENSITY**

With an overall height of 1.25" and a 3" x 5" footprint, the XL160 Series boasts a power density of 8.5 watts per cubic inch. It is ideally suited for OEMs using industry standard 1U chassis.

### Typical Mechanical Drawing:

Inches (millimeters), connectors and pinouts may vary with model. Refer to XL160 Product Specification for complete information.



## HIGH EFFICIENCY IN A SMALL PACKAGE

The XL160 Series provides up to 90% efficiency in an AC-DC power supply. Our unique design reduces energy consumption and generates less wasted heat. It requires little forced air cooling, decreases AC loads, increases reliability and economy of operation

Contact us regarding custom and modified standard supplies for unique applications.











# N2POWER XL160 AC-DC SERIES

# ULTRA SMALL, HIGH EFFICIENCY POWER SUPPLIES

MODEL	PART Number	ОИТРИТ	VOLTAGE	REGULATION (%)	MAXIMUM CURRENT (A)	RIPPLE & Noise (P-P)
XL160-05	400012-12-6	V1	5	±3	32.0	50 mV
XL160-05 CS	400012-01-9	V2	12	±5	1.0	120 mV
VI 160 07 CC	400012-05-0	V1	7	±3	22.9	70 mV
XL160-07 CS		V2	12	±5	1.0	120 mV
XL160-08 CS	400012-10-0	V1	8	±3	20.0	80 mV
		V2	12	±5	1.0	120 mV
XL160-12	400013-12-4	V1	12	±3	13.3	120 mV
XL160-12 CS	400013-01-7	V2	12	±5	1.0	120 mV
XL160-15	400014-03-1	V1	15	±3	10.7	150 mV
XL160-15 CS	400014-01-5	V2	12	±5	1.0	120 mV
XL160-19 CS	400015-04-6	V1	19	±3	8.4	190 mV
		V2	12	±5	1.0	120 mV
XL160-24	400015-07-9	V1	24	±3	6.7	240 mV
XL160-24 CS	400015-01-2	V2	12	±5	1.0	120 mV
VI 100 00 CC	400015-08-7	V1	30	±3	5.3	300 mV
XL160-30 CS		V2	12	±5	1.0	120 mV
XL160-48	400016-07-7	V1	48	±3	3.3	480 mV
XL160-48 CS	400016-01-0	V2	12	±5	1.0	120 mV
XL160-51	400016-08-5	V1	51	±3	3.1	510 mV
XL160-51 CS	400016-03-6	V2	12	±5	1.0	120 mV
XL160-54	400033-02-3	V1	54	±3	2.9	540 mV
XL160-54 CS	400033-01-5	V2	12	±5	1.0	120 mV
XL160-56	400032-02-1	V1	56	±3	2.8	560 mV
XL160-56 CS	400034-01-3	V2	12	±5	1.0	120 mV
XL160-1	400011-01-1	V1	3.3	±3	15.0	50 mV
		V2	5	±5	20.0	50 mV
		V3	12	±5	6.0	120 mV
		V4	-12	±5	1.0	120 mV
	4000017-01-8	V1	2.5	±3	15.0	50 mV
VI 160 7		V2	5	±4	20.0	50 mV
XL160-7		V3	12	±5	6.0	120 mV
		V4	-12	±5	1.0	120 mV
XL160-8	400018-01-6	V1	5	±4	20.0	50 mV
		V2	12	±5	6.0	120 mV
		V3	-12	±5	1.0	120 mV
XL160-10	400028-01-5	V1	5.6	±3	24.0	56 mV
		V2	-5.8	±5	1.5	58 mV
XL160-11*	400060-01-8	V1	5	±4	20.0	50 mV
		V2	12	±5	6.0	120 mV
		V3	_12	±5	1.0	120 mV

CS = Current Sharing

\*OR-ing diode on V1 / V2 output

#### Compliance:1 USA / Canada:

Safety: Underwriters Laboratories: UL 60950-1:2007 (2nd Edition) / C22.2 No. 60950-1-07 Safety of Information Technology Equipment (ITE)

<sup>1</sup>See Product Specification for additional information

Europe: 2006/95/EC - "Low Voltage (Safety) Directive" Demko: EN 60950-1:2006+A11:2009

2004/108/EC "Electromagnetic Compatibility (EMC) Directive" EN 61204-3 Class B

INPUT SPECIFICATIONS		
Nominal Input Voltage:	100 – 240 VAC	
Maximum AC Input:	90 - 264 VAC	
Input Frequency Range:	47 – 63 Hz	
Input Current:	2.2 A @ 100 VAC	
Input Protection:	3.15 A fuse	
Safety Isolation:	3000 VAC input to output 1500 VAC input to ground	
Inrush Current:	33 A @ 115 VAC	
Leakage Current:	< 0.75 mA	
Power Factor Correction:	Active PFC circuitry, meets or exceeds EN61000-3-2	
<b>OUTPUT SPECIFICATIONS</b>		
Total Power:	160 W	
Hold-up Time:	Minimum 22 mS at all input voltages	
Efficiency:	Up to 90%†	
Minimum Load:	No load <sup>†</sup>	
Over / Under Shoot:	Maximum 10% at turn-on	
PROTECTION		
Overvoltage Protection:	On all main outputs	
Overpower Protection:	Protected / Auto-recovery	
Short Circuit Protection:	All outputs protected against short circuit	
Thermal Shutdown:	Protected against overtemperature conditions	
<b>OPERATING SPECIFICATIO</b>	NS	
Operating Temperature:	−25 to +50°C	
Temperature Derating:	2.5% / degree C to 70°C	
Storage Temperature:	-40 to +85°C	
Forced Air Cooling:	10 CFM	
Convection Cooling:	See Product Specification	
MTBF:	675,333 hours @ 25°C*	
SIGNALS		
Remote Sense:	On main output $^{\dagger\Delta}$	
Current Sharing:	Active current sharing with OR-ing diode or MOSFETs $^{\dagger\Delta}$	
Power Good:	Provided <sup>†</sup>	
PS_OK:	Output <sup>†</sup>	
LED:	Some models <sup>†</sup>	

- † See Product Specification △ Some Models
- \* See MTBF Report for additional temperature values

#### International:

IEC 60950-1:2005 (2nd Edition) Safety of Information Technology Equipment

IEC 61204-3 Class B

### For complete specifications on all models, please visit our website at: www.qualstar.com

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