N2Power™
A Qualstar® Company

ULTRA SMALL, HIGH EFFICIENCY POWER SUPPLIES

# XL375 AC-DC Series

- **375 W AC-DC / 3.3" X 5" FOOTPRINT**
- **AVAILABLE MODELS: 12V – 56V**
- **UP TO 93% EFFICIENCY**
- **HIGH POWER DENSITY: OVER 15 W / in³**
- **ALL OUTPUTS MAY BE PARALLELED**
- **REMOTE ON / OFF**
- **5V STANDBY OUTPUT (1A)**
- **12V AUX OUTPUT (1A)**
- **UNIVERSAL AC INPUT**
- **ACTIVE PFC (90 – 264 VAC)**
- **ACTIVE CURRENT SHARING FOR N, N+1**
- **ACTIVE INRUSH CURRENT PROTECTION**
- **RoHS COMPLIANT**


## POWER SUPPLY DESIGN LEADER

N2Power™ leads the power density race with its high efficiency XL375 Series AC-DC power supplies. Our advanced technology yields a very small footprint, reduces wasted power, and

**TWICE THE POWER IN HALF THE SPACE**

offers the highest power density in its class. This efficient design means reduced energy costs, a greater return on your investment, greater reliability and longer product life.

## UNMATCHED POWER DENSITY

With an overall height of 1.5" and a 3.3" x 5" footprint, the XL375 Series boasts a power density over 15 watts per cubic inch. It is ideally suited for OEMs using the industry standard 1U chassis.

## HIGH EFFICIENCY IN A SMALL PACKAGE

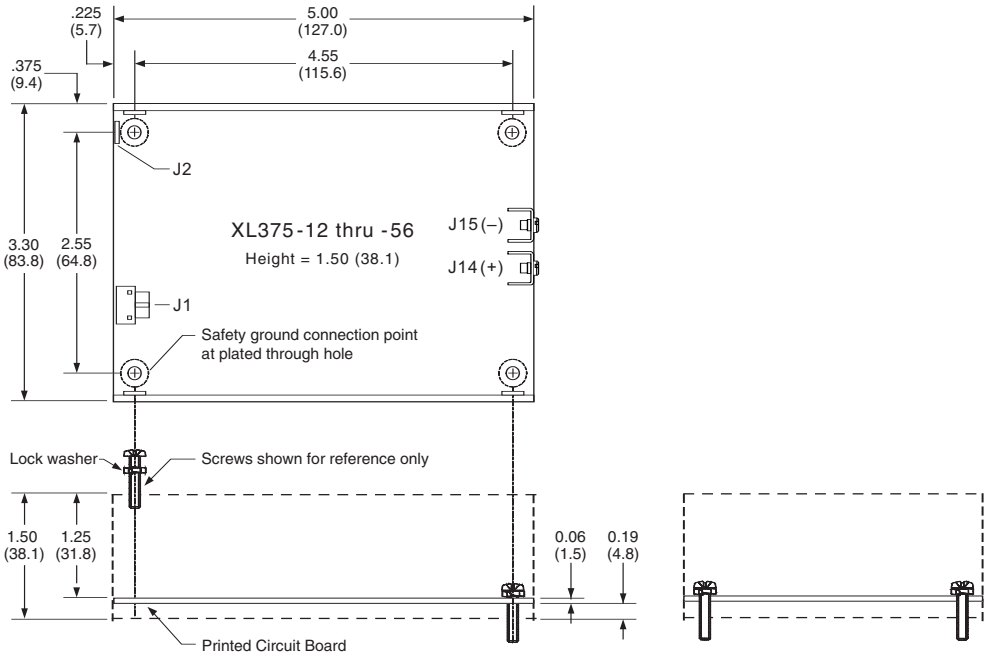
The XL375 Series provides up to 93% efficiency. Our unique design reduces energy consumption and generates less wasted heat. It requires little forced air cooling, decreases AC power consumption, increases reliability and economy of operation. Comparisons of efficiencies show that our supplies can reduce losses up to 50%.

## COMPLETE PROTECTION

The main output is enabled whenever all of the required startup conditions are met, and is shut down upon command, loss of input power or whenever excessive loads or temperatures are sensed. It always provides the host system with advanced warning of an impending shutdown to enable it to perform housekeeping before power is lost.

### *Typical Mechanical Drawing:*

*Inches (millimeters), refer to XL375 Product Specification for complete information.*



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| MODEL | OUTPUT | VOLTAGE | REGULATION (%) | MAXIMUM CURRENT (A) | RIPPLE & NOISE (P-P) |
|---|---|---|---|---|---|
| XL375-12 +12VDC | V1 | 12 | ±3 | 30.0 | 100 mV |
| | V2 | 12 | ±5 | 1.0 | 80 mV |
| | V3 | 5sb* | ±5 | 1.0 | 50 mV |
| XL375-24 +24VDC | V1 | 24 | ±3 | 15.0 | 200 mV |
| | V2 | 12 | ±5 | 1.0 | 80 mV |
| | V3 | 5sb* | ±5 | 1.0 | 50 mV |
| XL375-28 +28VDC | V1 | 28 | ±3 | 12.8 | 200 mV |
| | V2 | 12 | ±5 | 1.0 | 80 mV |
| | V3 | 5sb* | ±5 | 1.0 | 50 mV |
| XL375-40 +40VDC | V1 | 40 | ±3 | 9.0 | 200 mV |
| | V2 | 12 | ±5 | 1.0 | 80 mV |
| | V3 | 5sb* | ±5 | 1.0 | 50 mV |
| XL375-48 +48VDC | V1 | 48 | ±3 | 7.5 | 200 mV |
| | V2 | 12 | ±5 | 1.0 | 80 mV |
| | V3 | 5sb* | ±5 | 1.0 | 50 mV |
| XL375-54 +54VDC | V1 | 54 | ±3 | 6.7 | 200 mV |
| | V2 | 12 | ±5 | 1.0 | 80 mV |
| | V3 | 5sb* | ±5 | 1.0 | 50 mV |
| XL375-56 +56VDC | V1 | 56 | ±3 | 6.4 | 200 mV |
| | V2 | 12 | ±5 | 1.0 | 80 mV |
| | V3 | 5sb* | ±5 | 1.0 | 50 mV |

All outputs isolated from the chassis and share a common return  *12Vsb optional

## INPUT SPECIFICATIONS

| | |
|---|---|
| Nominal Input Voltage: | 100 – 240 VAC |
| Tested Input Limits: | 90 – 264 VAC |
| Input Frequency Range: | 47 – 63 Hz |
| Input Current: | 4.3 A @ 100 VAC |
| Input Protection: | 6.3 A fuse |
| Safety Isolation: | 3000 VAC input to output<br>1500 VAC input to ground |
| Inrush Current: | 14 A @ 240 VAC† |
| Power Factor Correction: | Active PFC circuitry, meets or exceeds EN61000-3-2 |

## OUTPUT SPECIFICATIONS

| | |
|---|---|
| Total Output: | 375 W |
| Hold-up Time: | Minimum 20 mS |
| Efficiency: | Up to 93%† |
| Minimum Load: | No load |
| Over / Under Shoot: | Maximum 10% at turn-on |

## PROTECTION

| | |
|---|---|
| Overvoltage Protection: | V1 (latches off) |
| Overpower Protection: | Protected / Auto Recovery |
| Short Circuit Protection: | Auto recovery of all outputs |
| Thermal Shutdown: | Auto recovery protection against over temperature conditions |

## OPERATING SPECIFICATIONS

| | |
|---|---|
| Operating Temperature: | –25°C to +50°C |
| Temperature Derating: | 2.5% / degree 50°C to 70°C |
| Storage Temperature: | –40°C to +85°C |
| Forced Air Cooling: | 10 CFM minimum† |
| Convection Cooling: | 200W max output |
| Leakage Current: | 1.8mA @ 240 VAC / 60 Hz† |
| MTBF: | >160,000 hours calculated |

## SIGNALS

| | |
|---|---|
| Remote Sense: | V1 and Return |
| Current Sharing: | V1 using active circuitry |
| Passive Redundancy: | V2 and V3 outputs may be wire OR'ed |
| Power Good (PG) Output: | High-true CMOS logic and LED drive outputs |
| Remote Enable Input: | Low-true input enables V1 output; V2 optional |
| Onboard LED Indicators: | AC On, Power Good |
| Trim Input: | ±5% |

† See Product Specification

**COMPLIANCE:**

**USA/Canada:**
UL60950-1:2007 (2nd Edition) / C22.2 No. 60950-1-07 (Bi-National Standard) Safety of Information Technology Equipment

**Europe:**
Directive 2006/95/EC - "Low Voltage (Safety) Directive"

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

Directive 2004/108/EC "Electromagnetic Compatibility (EMC) Directive"

EN61204-3:2001 Stabilized Power Supplies, d.c. Outputs EMC Standards Specification
EN61204-3:2001 is a product family EMC standard referencing the following standards:
EN61000-3-3 Limits of Voltage Fluctuations & Flicker
EN61000-3-2 Harmonic Current Emissions
(Power Factor Correction)
EN61000-4-3 Radiated Radio Frequency.
Electromagnetic Field Immunity
EN61000-4-4 Fast Transient / Burst Immunity
EN61000-4-5 Surge Immunity
EN61000-4-6 Immunity to Conducted Disturbances
EN61000-4-11 Voltage Dips, Short Interrupts & Voltage Variations

Directive 2002/95/EC - "Restriction of Hazardous Substances (RoHS)"

Safety Approvals:
UL, cUL, DEMKO, CB Certificate, CB Report. CE Mark

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***For complete specifications on all models, please visit our website at: www.N2Power.com***


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