

ULTRA SMALL, HIGH EFFICIENCY POWER SUPPLIES XL275 AC-DC Series

- 275 W AC-DC / 3" X 5" FOOTPRINT
- UP TO 91% EFFICIENCY
- HIGH POWER DENSITY: OVER 12 W / in³
- ALL OUTPUTS MAY BE PARALLELED
- REMOTE ON / OFF
- 5W 5V STANDBY SUPPLY
- UNIVERSAL AC INPUT
- ACTIVE PFC (90 264 VAC)
- BUILT IN OR-ING MOSFET FOR N, N+1
- ACTIVE INRUSH CURRENT PROTECTION
- Rohs compliant
- PMBus™ INTERFACE FOR DIGITAL POWER MANAGEMENT (OPTIONAL)

POWER SUPPLY DESIGN LEADER

N2Power™ leads the power density race with its small, high efficiency XL275 Series AC-DC power supplies. Our advanced technology



TWICE THE POWER IN HALF THE SPACE

yields a very small footprint, reduces wasted power, and 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.

ADVANCED DIGITAL CONTROLLER

The XL275 is the first power supply in this class to use a dedicated digital microcontroller to supervise the unit's operation. The microcontroller monitors the following parameters:

- DC voltage on the bulk capacitor (supplied by the AC mains)
- Output voltage
- · Output current
- Auxiliary 12V output voltage
- Transformer temperature
- Ambient temperature
- Fan tachometer

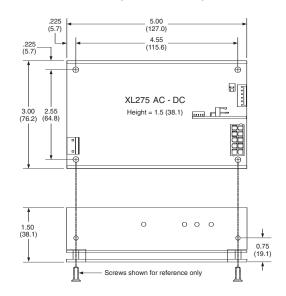
The microcontroller enables the main output whenever all of the required startup conditions are met, and shuts it down upon command, loss of input power or whenever excessive loads or temperatures are sensed. It always provides advanced warning of an impending shutdown before output power is lost.

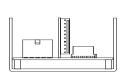
PMBus™ OPTION

An optional PMBus™ digital communications interface is available to allow up to four

Typical Mechanical Drawing:

Inches (millimeters), connectors and pinouts may vary with model. Refer to XL275 Product Specification for complete information.





XL275s to communicate over the same bus using the PMBus™ protocol. This interface allows routine remote control of the main outputs and the 12V fans. The host can also query the microcontroller for its output voltage

and current plus the ambient and transformer temperatures and fan tachometer speed. Because it is programmable, the microcontroller code can be customized to meet unique OEM requirements.



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INPUT SPECIFICATIONS

Tested Input Limits:

Input Current:

Input Protection:

Safety Isolation:

Inrush Current:

Correction:

Total Output: Hold-up Time:

Minimum Load:

Over / Under Shoot:

Thermal Shutdown:

OPERATING SPECIFICATIONS

Storage Temperature:

Forced Air Cooling:

Convection Cooling:

MTBF:

SIGNALS Remote Sense **Active Current Sharing** Passive Redundancy Fan Output 1 Fan Output 2 Fan Tachometer Input Optional I2C Data / Clock Power Good (PG) Output Standby Output

Operating Temperature: -25 to +50°C

Temperature Derating: 2.5% / degree 50°C to 70°C

150W

Efficiency:

PROTECTION

Leakage Current: Power Factor

OUTPUT SPECIFICATIONS

Nominal Input Voltage: 100 - 240 VAC

Input Frequency Range: 47 – 63 Hz

90 - 264 VAC

5 A fuse

275 W

3.5 A @ 100 VAC

13 A @ 240 VAC[†] $0.7mA^{\dagger}$

Minimum 22 mS

Up to 91%[†]

No load

Overvoltage Protection: V1 and V2 latch off Overpower Protection: Protected / Auto-recovery Short Circuit Protection: Auto recovery of

3000 VAC input to output 1500 VAC input to ground

Active PFC circuitry, meets

or exceeds EN61000-3-2

Maximum 10% at turn-on

all outputs protected against short circuit

conditions

-40 to +85°C

10 CFM minimum[†]

645,362 hours @ 25°C*

Auto recovery protection against over temperature

MODEL	PART Number	OUTPUT	VOLTAGE	REGULATION (%)	MAXIMUM CURRENT (A)	RIPPLE & Noise (P-P)
VI 075 40	400000 00 4	V1	12	±3	22.9	100 mV
	400029-02-1	V2	12	±5	1.0	80 mV
	400029-01-3	V3	5sb	±5	1.0	50 mV
XL275-15 XL275-15 CS	400029-05-4 400029-03-9	V1	15	±3	18.3	150 mV
		V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV
XL275-16 XL275-16 CS	400029-06-2 400029-04-7	V1	16	±3	17.1	150 mV
		V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV
VI 075 40	400029-07-0	V1	18	±3	15.3	200 mV
XL275-18		V2	12	±5	1.0	80 mV
XL275-18 CS		V3	5sb	±5	1.0	50 mV
XL275-24 XL275-24 CS	400030-02-9 400030-01-1	V1	24	±3	11.5	200 mV
		V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV
\(\(\alpha\)		V1	28	±3	9.8	200 mV
XL275-28 XL275-28 CS	400032-06-6	V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV
XL275-36 XL275-36 CS	400035-02-8 400035-01-0	V1	36	±3	7.6	200 mV
		V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV
XL275-48 XL275-48 CS	400031-02-7 400031-01-9	V1	48	±3	5.7	200 mV
		V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV
XL275-54 XL275-54 CS	400032-04-1	V1	54	±3	5.1	200 mV
		V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV
XL275-56 XL275-56 CS	400032-02-5	V1	56	±3	4.9	200 mV
		V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV

CS = Current Sharing

Compliance:1

USA / Canada:

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

EMC: FCC part 15, subpart B

¹See 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

Remote Enable Input Onboard LED Indicators † See Product Specification * See MTBF Report for additional temperature values

International:

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

IEC 61204-3 Class B











Tel: 805-583-7744 E-mail: sales@N2Power.com Fax: 805-583-7749 Website: www.N2Power.com All information and specifications are based on our knowledge of the products at the time of printing. N2Power reserves the right to change specifications without notice

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