N2Power™
A Qualstar® Company

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 micro-controller 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

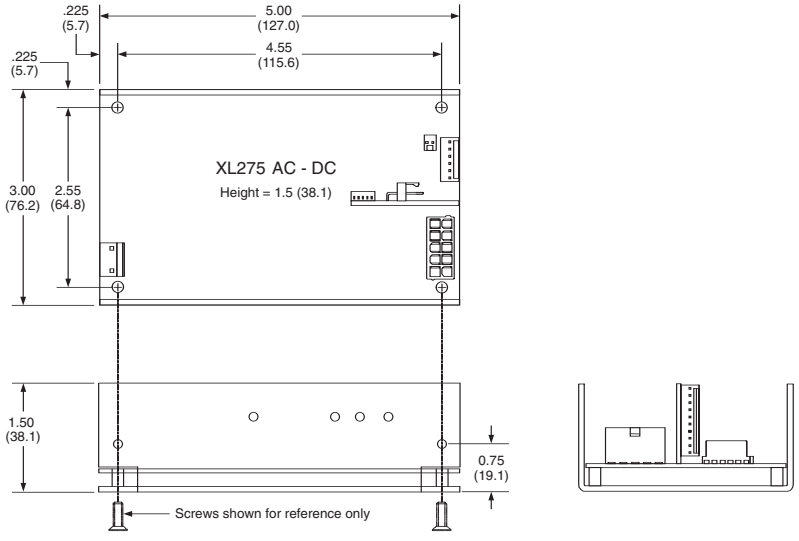
The microcontroller enables the main output whenever all of the required startup conditions are met, and shuts it down upon command, loss of input power or whenever excessive loads or temperatures are sensed. It always provides advanced warning of an impending shutdown before output power is lost.

PMBus™ OPTION

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

Typical Mechanical Drawing:

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



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MODEL	PART NUMBER	OUTPUT	VOLTAGE	REGULATION (%)	MAXIMUM CURRENT (A)	RIPPLE & NOISE (P-P)
XL275-12	400029-02-1	V1	12	±3	22.9	100 mV
		V2	12	±5	1.0	80 mV
XL275-12 CS	400029-01-3	V3	5sb	±5	1.0	50 mV
XL275-15	400029-05-4	V1	15	±3	18.3	150 mV
		V2	12	±5	1.0	80 mV
XL275-15 CS	400029-03-9	V3	5sb	±5	1.0	50 mV
XL275-16	400029-06-2	V1	16	±3	17.1	150 mV
		V2	12	±5	1.0	80 mV
XL275-16 CS	400029-04-7	V3	5sb	±5	1.0	50 mV
XL275-18	400029-07-0	V1	18	±3	15.3	200 mV
		V2	12	±5	1.0	80 mV
XL275-18 CS	400029-08-8	V3	5sb	±5	1.0	50 mV
XL275-24	400030-02-9	V1	24	±3	11.5	200 mV
		V2	12	±5	1.0	80 mV
XL275-24 CS	400030-01-1	V3	5sb	±5	1.0	50 mV
XL275-28	400032-06-6	V1	28	±3	9.8	200 mV
		V2	12	±5	1.0	80 mV
XL275-28 CS	400032-05-8	V3	5sb	±5	1.0	50 mV
XL275-36	400035-02-8	V1	36	±3	7.6	200 mV
		V2	12	±5	1.0	80 mV
XL275-36 CS	400035-01-0	V3	5sb	±5	1.0	50 mV
XL275-48	400031-02-7	V1	48	±3	5.7	200 mV
		V2	12	±5	1.0	80 mV
XL275-48 CS	400031-01-9	V3	5sb	±5	1.0	50 mV
XL275-54	400032-04-1	V1	54	±3	5.1	200 mV
		V2	12	±5	1.0	80 mV
XL275-54 CS	400032-03-3	V3	5sb	±5	1.0	50 mV
XL275-56	400032-02-5	V1	56	±3	4.9	200 mV
		V2	12	±5	1.0	80 mV
XL275-56 CS	400032-01-7	V3	5sb	±5	1.0	50 mV

CS = Current Sharing

INPUT SPECIFICATIONS	
Nominal Input Voltage:	100 – 240 VAC
Tested Input Limits:	90 – 264 VAC
Input Frequency Range:	47 – 63 Hz
Input Current:	3.5 A @ 100 VAC
Input Protection:	5 A fuse
Safety Isolation:	3000 VAC input to output 1500 VAC input to ground
Inrush Current:	13 A @ 240 VAC†
Leakage Current:	0.7mA†
Power Factor Correction:	Active PFC circuitry, meets or exceeds EN61000-3-2
OUTPUT SPECIFICATIONS	
Total Output:	275 W
Hold-up Time:	Minimum 22 mS
Efficiency:	Up to 91%†
Minimum Load:	No load
Over / Under Shoot:	Maximum 10% at turn-on
PROTECTION	
Overvoltage Protection:	V1 and V2 latch off
Overpower Protection:	Protected / Auto-recovery
Short Circuit Protection:	Auto recovery of all outputs protected against short circuit
Thermal Shutdown:	Auto recovery protection against over temperature conditions
OPERATING SPECIFICATIONS	
Operating Temperature:	–25 to +50°C
Temperature Derating:	2.5% / degree 50°C to 70°C
Storage Temperature:	–40 to +85°C
Forced Air Cooling:	10 CFM minimum†
Convection Cooling:	150W
MTBF:	645,362 hours @ 25°C*
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	
Remote Enable Input	
Onboard LED Indicators	

† See Product Specification

* See MTBF Report for additional temperature values

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)

EMC: FCC part 15, subpart B

[1]See Product Specification for additional information

Europe:

2006/95/EC - "Low Voltage (Safety) Directive"
Demko: EN 60950-1:2006+A11:2009
(2nd Edition)

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

International:

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

IEC 61204-3 Class B

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

N2Power
A Qualstar Company
3990-B Heritage Oak Court
Simi Valley, CA 93063
NASDAQ: QBAK

Fax: 805-583-7749
Tel: 805-583-7744
800-468-0680 (U.S. Toll Free)
E-mail: sales@N2Power.com
Website: www.N2Power.com