DATASHEET

N2Power™

N2Power XL275 DC-DC Series

Ultrasmall, High-Efficiency Power Supplies

HIGHLIGHTS

- 275 W DC-DC
- *High-Efficiency*–up to 91%
- High-Power Density: 12 W / cu in.
- 3" X 5" Small Footprint
- All Outputs may be Paralleled
- Remote On / Off
- 5 W 5 V Standby Supply
- 36 - 76 VDC Input
- Active Current Sharing
- Built-in OR-ing MOSFET for N, N+1
- PMBus™ Interface for Digital Power Management (optional)
- RoHS Compliant
- Input to Output Isolation
- Three-year warranty

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.

PMBUS™ OPTION

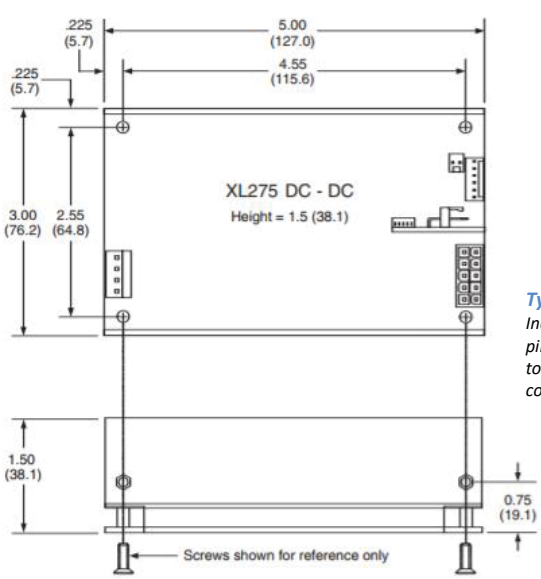
An optional PMBus™ digital communications interface is also provided to allow up to four XL275 to communicate over the same bus using the PMBus™ protocol. This interface allows routine remote control of the main outputs and the 12V fans. It can also notify the host if a fan fails (lost tachometer pulses). The host can also query the microcontroller for its output voltage and current plus the ambient and transformer temperatures. Because it is programmable, the microcontroller code can be customized to meet unique OEM requirements.

A POWER SUPPLY DESIGN **LEADER**

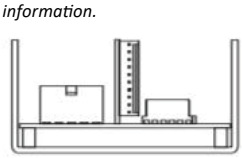
ADVANCED DIGITAL CONTROLLER

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 parameters:

- DC input voltage • Output voltage
- Output current • Transformer temperature
- Ambient temperature • Fan tachometer



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



N2Power leads the power density race with its high-efficiency XL275 Series DC -DC power supplies, which provide up to 91% efficiency. In fact, comparisons of efficiencies show that our supplies can reduce energy losses by up to 50%. Our advanced technology yields a very small footprint and offers the highest power density in its class. This unique design also generates less wasted heat—reducing the need for forced air cooling, decreasing AC power consumption, increasing reliability, and maximizing its economy of operation. By building our power supplies with a focus on maximizing efficiency, we can provide our valued customers with reduced energy costs, longer product lifespans, and a greater return on their investment.

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

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Call 805.583.7744

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High-Efficiency Power Supplies

MODEL	PART NUMBER	OUTPUT	VOLTAGE	REGULATION (%)	MAXIMUM CURRENT (A)	RIPPLE & NOISE (P-P)
XL275-12DC XL275-12DC CS	400084-03-4 400085-03-1	V1	12	±3	22.9	100 mV
		V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV
XL275-24DC XL275-24DC CS	400084-05-9 400085-05-6	V1	24	±3	11.5	200 mV
		V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV
XL275-48DC XL275-48DC CS	400084-06-7 400085-06-4	V1	48	±3	5.7	200 mV
		V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV
XL275-54DC XL275-54DC CS	400084-09-1 400085-09-8	V1	54	±3	5.1	200 mV
		V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV
XL275-56DC XL275-56DC CS	400084-10-9 400085-10-6	V1	56	±3	4.9	200 mV
		V2	12	±5	1.0	80 mV
		V3	5sb	±5	1.0	50 mV

CS = Current Sharing

Note: If you can't find your preferred output voltage listed on the table above, please contact a sales representative. We can easily modify standard PSUs to meet client-specific voltage requirements.

Compliance: [1]

	USA / Canada	Europe	International
Safety:	UL 60950-1:2007 (2nd Edition) / C22.2 No. 60950-1-07 UL 62368-1 (Second Edition) Safety of Information Technology Equipment	2006/95/EC - "Low Voltage (Safety) Directive" Demko: EN 60950-1:2006 (2nd Edition) + A11:2009 (2nd Edition) EN 62368-1:2014 / A11:2017	IEC 60950-1:2005 (2nd Edition) IEC 62368-1:2014 Safety of Information Technology Equipment
EMC:	FCC part 15, subpart B	2004/108/EC "Electromagnetic Compatibility (EMC) Directive" EN 61204-3 Class B	IEC 61204-3 Class B

[1] See Product Specification for additional information

INPUT SPECIFICATIONS	
Nominal Input Voltage:	36 – 76 VDC
Input Current:	9.2 A @ 36 VDC
Input Protection:	10 A fuse
Safety Isolation:	3000 V input to output 1500 V input to ground
OUTPUT SPECIFICATIONS	
Total Power:	275W
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
ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature:	-25°C to +70°C
Temperature Derating:	2.5% / degree C 50°C to 70°C
Storage Temperature:	-40°C to +85°C
Forced Air Cooling:	10 CFM minimum
Convection Cooling:	150 W
MTBF:	> 200,000 hours (calculated)
SIGNALS	
Remote Sense:	V1 and Return
Active Current Sharing:	V1 using OR-ing MOSFET
Passive Redundancy:	V2 and V3 outputs may be wire OR-ed
Fan Output 1:	V2 on a 2-pin keyed connector
Fan Output 2:	ON above 45°C ambient or hot transformer
Fan Tachometer Input:	(Optional) Reports fan speed via PMBus
Optional PC Data/Clock:	Provides PMBus control / status interface
Power Good Output:	High-true CMS logic and LED drive outputs
Standby Output:	LED drive on when V1 and V2 outputs disabled
Remote Enable Input:	Low-true input enables V1 and V2 outputs†
Onboard LED Indicators:	DC On, Power Good

† See Product Specification

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

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