# POWERSTAX N-0275 Series

## 1U High Ultra Compact AC-DC Power Supply 275W

## Outline Product Specification

### FEATURES

- ***275 W AC-DC /3" X 5" FOOTPRINT***
- ***UP TO 90% 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***
- ***INRUSH CURRENT PROTECTION***
- ***RoHS COMPLIANT***
- ***I2C INTERFACE FOR DIGITAL POWER MANAGEMENT***

**Powerstax continues to lead the power density race with its new small, high efficiency open frame N-0275 Series AC-DC power supplies.**

The N-0275 Series provides up to 90% efficiency and the very small footprint reduces wasted power.

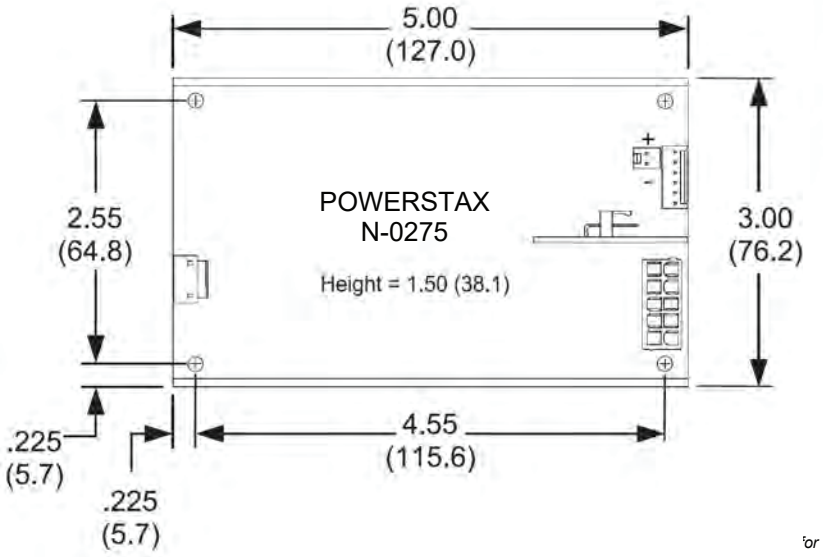
The unique design reduces energy consumption and generates less waste heat. It requires little forced air cooling, decreases AC loads and increases reliability and economy of operation.

With an overall height of 1.5" and a 3" x 5" footprint, the N-0275 Series boasts a power density over 12 watts per cubic inch. It is ideally suited for OEMs using the industry standard 1U chassis.

An optional I2C digital communications interface is also provided to allow up to four N-0275 to communicate over the same bus using the I2C 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.

Contact Powerstax regarding custom or modified standard power supplies for unique applications.

Safety Approvals: UL, cUL, DEMKO, CE Mark
Emissions: FCC Class B





*'or complete information.*



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# POWERSTAX N-0275 Series 275W
## Ultra Compact AC-DC Power Supply

# Outline Product Specification

| INPUT SPECIFICATION | |
|---|---|
| Nominal Input Voltage: | 100 - 240 VAC |
| Maximum AC Input: | 90 - 264 VAC |
| Input Frequency Range: | 47 - 63 Hz |
| Input Current: | 3.5A @ 100 VAC |
| Input Protection: | 5 A fuse |
| Safety Isolation: | 3000 VAC input to output<br>1500 VAC input to ground |
| Inrush Current: | 13 A @ 240 VAC† |
| Power Factor Correction: | active PFC circuitry, meets or exceeds EN61000-3-2 |

| 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 |
| Leakage Current; | < 1.5 mA |
| 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 I2C |
| Optional I2C Data / Clock: | Provides I2C control / status interface |
| Power Good (PG) Output: | High-true CMOS 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: | AC On, Power Good |

| OUTPUT SPECIFICATION | |
|---|---|
| Power: | 275 W |
| Hold-up Time: | minimum 22 mS |
| Efficiency: | up to 90%† |
| 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 protected against short circuit |
| Thermal Shutdown: | Auto recovery protection against over temperature conditions |

† See Engineering Specification

**COMPLIANCE:**

**USA/Canada:**
UL60950 / C22.2, 60950 (Bi-National Standard) Safety of Information Technology Equipment

**Europe:**
73/23/EEC "Low Voltage Directive" (Safety)
IEC 60950 Third Edition (1999) Safety of Information Technology Equipment. CB certificate and report available.
EN60950 (2000) Safety of Information Technology Equipment
89/336/EEC "Electromagnetic Compatibility Directive" (EMC)
EN61000-3-3 (1995) Limits of Voltage Fluctuations & Flicker
EN61000-3-2 (2000) Harmonic Current Emissions (Power Factor Correction)
EN61204-3 (2001) Stabilized Power Supplies, d.c. Outputs
EMC Standards Specification EN61204 (2001) is a product family
EMC standard which references the following specifications:
EN61000-4-2 (1995) ESD
EN61000-4-3 (1996) +A1 (1998) Radiated Radio Frequency. Electromagnetic Field Immunity
EN61000-4-4 (1995) Fast Transient / Burst Immunity
EN61000-4-5 (1995) Surge Immunity
EN61000-4-6 (1996) Immunity to Conducted Disturbances
EN61000-4-11 (1994) Voltage Dips, Short Interrupts & Voltage Variations

***REDUCED NOISE***

To minimize acoustic noise, the microcontroller can turn a 12V fan on or off based upon the present load conditions and the amount of cooling air available.

*Cover and Cover & Fan option available.*
*Please contact Powerstax for further details.*
*Tel: +44 (0) 1268 568200 or*
*Email: sales@powerstax.com*

| MODEL | OUTPUT | VOLTAGE | REGULATION (%) | MAXIMUM CURRENT ( A ) | RIPPLE & NOISE (P-P) |
|---|---|---|---|---|---|
| N-02751-PFC-120-0000 | V1 | 12 | ±3 | 22.9 | 100 mV |
| | V2 | 12 | ±5 | 1.0 | 80 mV |
| | V3 | 5sb | ±5 | 1.0 | 50 mV |
| N-02751-PFC-240-0000 | V1 | 24 | ±3 | 11.5 | 200 mV |
| | V2 | 12 | ±5 | 2.5 | 80 mV |
| | V3 | 5sb | ±5 | 2.0 | 50 mV |
| N-02751-PFC-480-0000 | V1 | 48 | ±3 | 5.7 | 200 mV |
| | V2 | 12 | ±5 | 1.0 | 80 mV |
| | V3 | 5sb | ±5 | 1.0 | 50 mV |
| N-02751-PFC-560-0000 | V1 | 56 | ±3 | 4.9 | 200 mV |
| | V2 | 12 | ±5 | 1.0 | 80 mV |
| | V3 | 5sb | ±5 | 1.0 | 50 mV |

All outputs isolated from the chassis



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