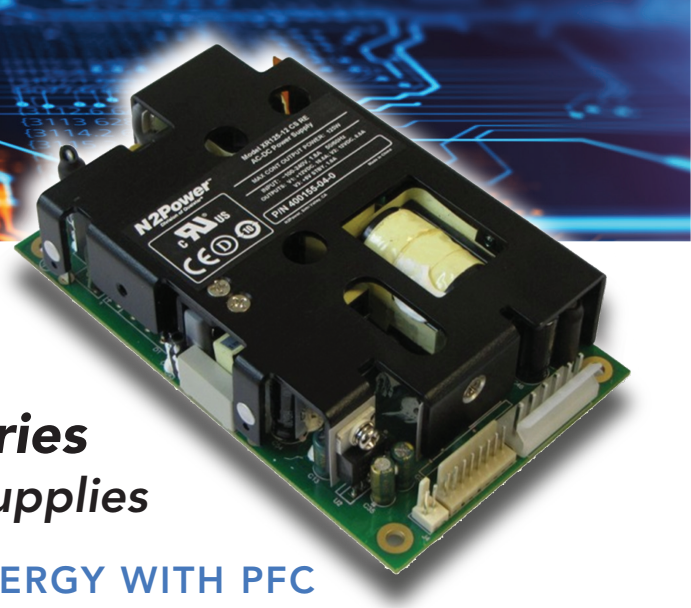
DATASHEET

N2Power™



# N2Power XR160 RE AC-DC Series

## *Ultrasmall, High Efficiency Power Supplies*

## HIGHLIGHTS

- 160 W AC-DC
- Up to 91% efficiency
- High power density: 8.5 W / cu in.
- Universal AC input
- Active PFC (90-264 VAC)
- Built in OR-ing diode/MOSFET for N+1 (optional)
- Single-wire current sharing (most models)
- Small footprint: 3" × 5"
- <1U High: 1.32"
- 5 Vsb @ 1amp & remote enable on all models
- No load operation
- RoHS compliant
- 3 year warranty

## SAVE ENERGY WITH PFC

All XR160 RE products incorporate active PFC technology with universal input to provide superior efficiency in each supply. Comparisons of power loading show that our supplies can reduce consumption up to 50%.

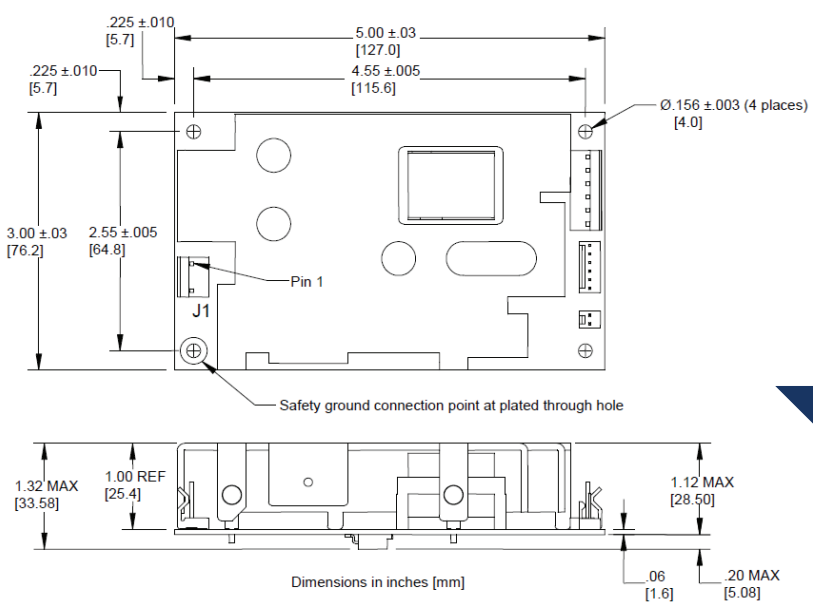
## UNMATCHED POWER DENSITY

With a height of 1.32" and a 3" × 5" footprint, the XR160 RE Series boasts a power density of 8.5 watts per cubic inch. It is ideally suited for OEMs using industry standard 1U chassis. Additionally, most models come standard with market leading built-in technology for active Intelligent current sharing and an Or-ing Diode/Mosfet for N+1 (up to 4).

## A POWER SUPPLY DESIGN LEADER

TYPICAL MECHANICAL DRAWING:

Inches (millimeters), connectors, and pinouts may vary with model.
Refer to XR160 Product Specification for complete information.




Note: Recommended standoff size is .375" high and all mounting hardware should be less than .28" in diameter. A standoff less than .375" high is acceptable when a thin insulator, 0.4mm thick (polyester, fish paper or equivalent UL rated 94V-2 minimum) is placed between the XR160 and the mounting chassis (refer to applicable UL standard for clearance requirements).

***N2Power*** leads the power density race with its high efficiency XR160 RE AC-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.***


N2Power™

***Call 805.583.7744***

N2Power.com



Rev051520



***Continued on back...***

# N2Power XR160 RE AC-DC Series

## Ultrasmall, High Efficiency Power Supplies

| MODEL | PART NUMBER | OUTPUT | VOLTAGE | REGULATION (%) | MAXIMUM CURRENT (A) | RIPPLE & NOISE (P-P) |
|---|---|---|---|---|---|---|
| XR160-05 RE<br>XR160-05 CS RE | 400140-03-4<br>400140-04-2 | V1 | 5 | ±3 | 32.0 | 50 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |
| XR160-07 CS RE | 400141-02-4 | V1 | 7 | ±3 | 22.8 | 70 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |
| XR160-08 CS RE | 400142-02-2 | V1 | 8 | ±3 | 20.0 | 80 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |
| XR160-12 RE<br>XR160-12 CS RE | 400130-03-5<br>400130-04-3 | V1 | 12 | ±3 | 13.3 | 120 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |
| XR160-15 RE<br>XR160-15 CS RE | 400131-03-3<br>400131-04-1 | V1 | 15 | ±3 | 10.7 | 150 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |
| XR160-19 CS RE | 400132-02-3 | V1 | 19 | ±3 | 8.4 | 190 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |
| XR160-24 RE<br>XR160-24 CS RE | 400133-03-9<br>400133-04-7 | V1 | 24 | ±3 | 6.7 | 240 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |
| XR160-28 RE<br>XR160-28 CS RE | 400134-03-7<br>400134-04-5 | V1 | 28 | ±3 | 5.7 | 280 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |
| XR160-30 RE<br>XR160-30 CS RE | 400135-03-4<br>400135-04-2 | V1 | 30 | ±3 | 5.3 | 300 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |
| XR160-48 RE<br>XR160-48 CS RE | 400136-03-2<br>400136-04-0 | V1 | 48 | ±3 | 3.3 | 480 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |
| XR160-51 CS RE | 400137-02-2 | V1 | 51 | ±3 | 3.1 | 510 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |
| XR160-54 RE<br>XR160-54 CS RE | 400138-03-8<br>400138-04-6 | V1 | 54 | ±3 | 2.9 | 540 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |
| XR160-56 RE<br>XR160-56 CS RE | 400139-03-6<br>400139-04-4 | V1 | 56 | ±3 | 2.8 | 560 mV |
| | | V2 | 12 | ±5 | 1.0 | 120 mV |
| | | V3 | 5sb | ±5 | 1.0 | 50mV |

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.

CS = Current Sharing, plus an OR-ing diode/MOSFET on V1 output.
RE = Remote Enable: turns V1 / V2 outputs on/off.
sb = standby voltage

| INPUT SPECIFICATIONS | |
|---|---|
| Nominal Input Voltage: | 100 – 240 VAC |
| Maximum AC Input: | 90 – 264 VAC |
| Input Frequency Range: | 47 – 63 Hz |
| Input Current: | 2.2 A @ 100 VAC |
| Input Protection: | 3.15 A fuse |
| Safety Isolation: | 3000 VAC input to output<br>1500 VAC input to ground |
| Inrush Current: | 33 A @ 115 VAC |
| Leakage Current: | .750 mA |
| Power Factor Correction: | Active PFC circuitry, meets or exceeds EN61000-3-2 |
| **OUTPUT SPECIFICATIONS** | |
| Total Power: | 160W |
| Hold-up Time: | Minimum 22 mS at all input voltages |
| Efficiency: | Up to 90% † |
| Minimum Load: | No load † |
| Over / Under Shoot: 5V STBY (ATX Models) | Maximum 10% at turn-on 5V / 1A |
| **PROTECTION** | |
| Overvoltage Protection: | On all main outputs |
| Overpower Protection: | Protected / auto-recovery |
| Short Circuit Protection: | All outputs protected against short circuit |
| Thermal Shutdown: | Protected against over-temperature conditions |
| **OPERATING SPECIFICATIONS** | |
| Operating Temperature: | -25°C to +70°C |
| Temperature Derating: | 2.5% / degree C to 70°C |
| Storage Temperature: | -40°C to +85°C |
| Forced Air Cooling: | 10 CFM† Δ |
| Convection Cooling: | See product specification |
| MTBF: | > 600,000 hours @ 25°C * |
| **SIGNALS** | |
| Remote Sense: | On main output † Δ |
| Current Sharing (Optional): | Active current sharing with OR-ing diode or MOSFETs † Δ |
| Power Good: | Provided |
| PS_OK: | Output † |
| LED (PG): | All models † |
| Remote Enable | All models † |

† See product specification  Δ Some models
* See MTBF Report for additional temperature values

**Compliance (See Product Spec for additional information):**

**USA / Canada**

**Safety:** UL 60950-1:2007 (2nd Edition) / C22.2 No. 60950-1-07
UL 62368-1 (Second Edition)
Safety of Information Technology Equipment

**EMC:** FCC part 15, subpart B

**Europe**

2006/95/EC - "Low Voltage (Safety) Directive"
Demko: EN 60950-1:2006 (2nd Edition) +A1:2010 +A11:2009 +A12:2011 +A2:2013
EN 62368-1:2014 / A11:2017
2004/108/EC "Electromagnetic Compatibility (EMC) Directive" EN 61204-3 Class B

**International**

IEC 60950-1:2005 (2nd Edition)+ Am1:2009 + Am2:2013
IEC 62368-1:2014
Safety of Information Technology Equipment
IEC 61204-3 Class B

***Contact us regarding custom and modified standard supplies for unique applications.***
***For complete specifications on all models, please visit our website at N2Power.com***



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