



Open Frame (XLO Models)

N2Power XL180 AC-DC Series High-Efficiency Power Supplies

HIGHLIGHTS

- 180 W AC-DC
- High-Efficiency—up to 94%
- Low standby power consumption ≤ 0.15 Watt
- Wide input voltage range 85 to 264 VAC
- Also supports DC-DC (input 120 to 370 VDC)
- Convection cooled full power
- Built-in EMI filter
- Output voltage adjustable ($\pm 8\%$)
- Open frame dimensions 2.00" x 3.00" x 1.24"
- 3000VAC input to output reinforced insulation
- Protection type Class I or Class II
- Leakage current: 300 μ A at 264 VAC
- Operating temperature -40° C to $+85^{\circ}$ C
- Operating altitude 5000 M
- DC Input option
- OVC111 (2000 M) option
- 3-year warranty

PACKAGING CHOICES

The XL180 is not only one of the smallest 180 Watt power supplies on the market, it is also available in a choice of three different packages to suit diverse application requirements; XLO Open-Frame models, XLE Enclosed models and XLD DIN Rail models. Despite its small size, the full 180 W output power is delivered with convection cooling only – no need for a fan!

APPLICATIONS

The excellent operating characteristics of the XL180 Series plus its wide range of international compliance certifications make it the ideal choice for use in diverse applications that include personal computers, wireless networking, measurement equipment, telecom/datacom, industrial control systems and automation.

A POWER SUPPLY DESIGN LEADER

N2Power leads the power density race with its high-efficiency XL180 Series AC -DC power supplies, which provide up to 94% 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 XL180 AC-DC Series

High-Efficiency Power Supplies

MODEL	PART NUMBER	VOLTAGE	REGULATION	MAXIMUM CURRENT (A) with 10CFM	MAXIMUM CURRENT (A) Convection	Ripple Noise (P-P)
XLO180-12	400610-01-0	12V	±0.5%	15	12.5	120 mV
XLO180-15	400610-02-8	15V	±0.5%	12	10	120 mV
XLO180-18	400610-03-6	18V	±0.5%	10	8.34	120 mV
XLO180-24	400610-04-4	24V	±0.5%	7.5	6.25	120 mV
XLO180-28	400610-05-1	28V	±0.5%	6.43	5.36	120 mV
XLO180-36	400610-06-9	36V	±0.5%	5	4.17	120 mV
XLO180-48	400610-07-7	48V	±0.5%	3.75	3.13	250 mV
XLO180-53	400610-08-5	53V	±0.5%	3.4	2.83	250 mV
XLO180-12B	400610-09-3	12V	±0.5%	15	12.5	120 mV
XLO180-15B	400610-10-1	15V	±0.5%	12	10	120 mV
XLO180-18B	400610-11-9	18V	±0.5%	10	8.34	120 mV
XLO180-24B	400610-12-7	24V	±0.5%	7.5	6.25	120 mV
XLO180-28B	400610-13-5	28V	±0.5%	6.43	5.36	120 mV
XLO180-36B	400610-14-3	36V	±0.5%	5	4.17	120 mV
XLO180-48B	400610-15-0	48V	±0.5%	3.75	3.13	250 mV
XLO180-53B	400610-16-8	53V	±0.5%	3.4	2.83	250 mV
XLE180-12	400611-01-8	12V	±0.5%	15	12.5	120 mV
XLE180-15	400611-02-6	15V	±0.5%	12	10	120 mV
XLE180-18	400611-03-4	18V	±0.5%	10	8.34	120 mV
XLE180-24	400611-04-2	24V	±0.5%	7.5	6.25	120 mV
XLE180-28	400611-05-9	28V	±0.5%	6.43	5.36	120 mV
XLE180-36	400611-06-7	36V	±0.5%	5	4.17	120 mV
XLE180-48	400611-07-5	48V	±0.5%	3.75	3.13	250 mV
XLE180-53	400611-08-3	53V	±0.5%	3.4	2.83	250 mV
XLE180-12B	400611-09-1	12V	±0.5%	15	12.5	120 mV
XLE180-15B	400611-10-9	15V	±0.5%	12	10	120 mV
XLE180-18B	400611-11-7	18V	±0.5%	10	8.34	120 mV
XLE180-24B	400611-12-5	24V	±0.5%	7.5	6.25	120 mV
XLE180-28B	400611-13-3	28V	±0.5%	6.43	5.36	120 mV
XLE180-36B	400611-14-1	36V	±0.5%	5	4.17	120 mV
XLE180-48B	400611-15-8	48V	±0.5%	3.75	3.13	250 mV
XLE180-53B	400611-16-6	53V	±0.5%	3.4	2.83	250 mV
XLD180-12	400612-01-6	12V	±0.5%	15	12.5	120 mV
XLD180-15	400612-02-4	15V	±0.5%	12	10	120 mV
XLD180-18	400612-03-2	18V	±0.5%	10	8.34	120 mV
XLD180-24	400612-04-0	24V	±0.5%	7.5	6.25	120 mV
XLD180-28	400612-05-7	28V	±0.5%	6.43	5.36	120 mV
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XLD180-53B	400612-16-4	53V	±0.5%	3.4	2.83	250 mV

INPUT SPECIFICATIONS	
Nominal Input Voltage:	85 – 264 VAC 120 – 370 VDC
Input Frequency Range:	47 – 63 Hz
Input Current:	3 A @ 100 VAC 1.5 A @ 240 VAC
Input Protection:	4 A / 250 VAC fuse
Safety Isolation:	3000 VAC input to output 2000 VAC input to ground
Inrush Current:	100 A @ 230 VAC, 25° C
Leakage Current:	300 µA @ 264 VAC
OUTPUT SPECIFICATIONS	
Total Output:	180 W
Output Voltages:	12 V to 53 V
Voltage adjustability	±8%
Voltage Tolerance ⁽²⁾	±0.7%
Line Regulation ⁽³⁾	±0.2% ⁽²⁾
Setup / Rise Time ⁽⁵⁾	1 sec / 15ms, at full load
Hold-up Time:	Minimum 10 ms at 115 VAC, 150 W
Efficiency:	Up to 94%
Minimum Load:	No load
Over / Under Shoot:	Max 1% at turn-on
PROTECTION	
Overvoltage Protection:	Latch mode at 115 - 135% of V _{OUT}
Overload Protection:	Hiccup mode at 150% of I _{OUT} rated
Short Circuit Protection:	Continuous protection, with auto recovery
Isolation Resistance	500 VDC @ 0.1 GΩ
ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature:	-40 to +85° C
Storage Temperature:	- 40 to +85° C
Operating altitude:	5000 m
Convection Cooling:	180 W
Relative Humidity:	5% to 95% (non-cond.)
MTBF (full load at 25° C):	1,145,000 hours

Notes

- (1) All specifications valid at normal input voltage, full load and +25° C after warm-up time, unless otherwise stated.
- (2) Tolerance includes setup time tolerance, line regulation and load regulation.
- (3) Line regulation is measured from low line to high line at rated load.
- (4) Load regulation is measured from 0% to 100% rated load.
- (5) Length of setup time is measured at first cold start. Turning ON/OFF the power supply continuously may increase the setup time.

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.

Contact us regarding custom and modified standard supplies for unique applications. For complete specifications on all models, please visit our website at 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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Model numbers with suffix 'Blank' comply with Protection Class I. Those with suffix 'B' comply with Protection Class II.

Compliance* Safety:	IEC/EN/UL 62368-1
EMC: Emission:	EN 55032 and FCC Part 15: Conducted (Class B); Radiated (Class A). EN61000-3-2, EN61000-3-3
EMC: Immunity:	EN 55024, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11

*The power supply is considered a component of the final product in which it is integrated. The final product itself must be tested separately for compliance with all applicable standards.

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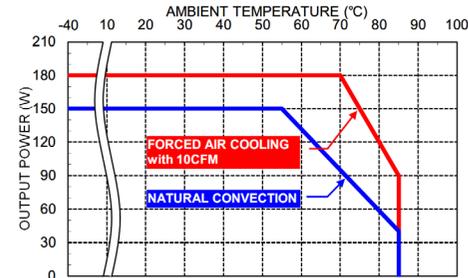
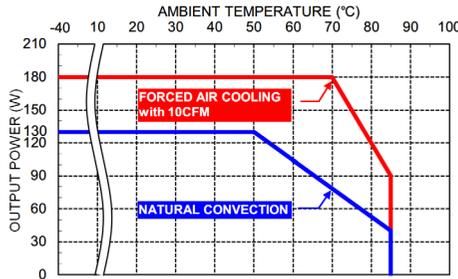
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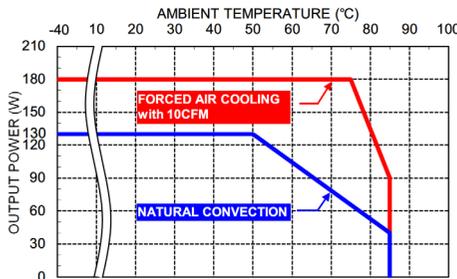
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High-Efficiency Power Supplies

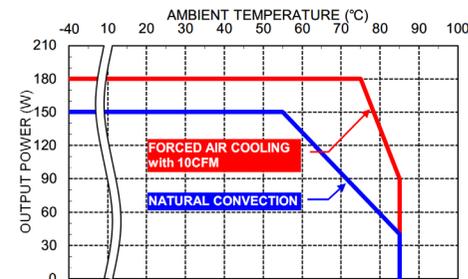
CHARACTERISTIC CURVE



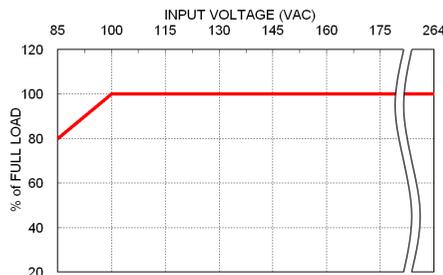
Derating Curve vs. Ambient Temperature
Vin=230VAC Open type



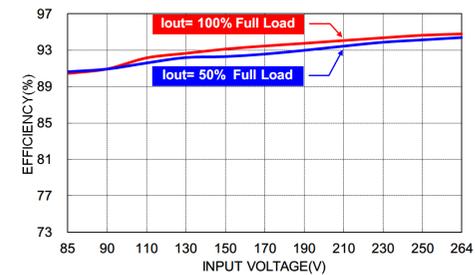
Derating Curve vs. Ambient Temperature
Vin=115VAC Enclosed type / Din rail type



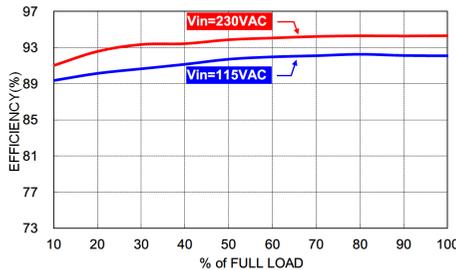
Derating Curve vs. Ambient Temperature
Vin=230VAC Enclosed type / Din rail type



Derating Curve vs. Input Voltage
XL180



Efficiency vs. Input Voltage
XL180-24 with Forced air cooling



Efficiency vs. Output Load
XL180-24 with Forced air cooling

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Connector Pin Assignments

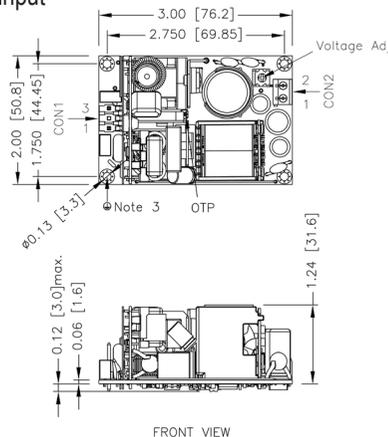
CON1 – Input Connector		D Input	CON2 – Output connector	
Pin 1	Neutral	DC+	Pin 1, 2	+V _{out}
Pin 3	Line	DC-	Pin 3, 4	-V _{out}

Notes

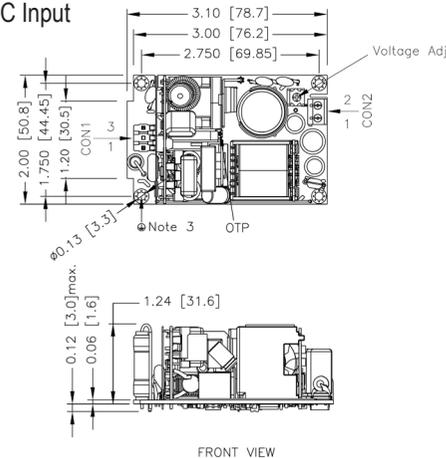
1. All dimensions are in inches [mm]
2. Tolerance: $x.xx \pm 0.02$ ($x.x \pm 0.5$) $x.xxx \pm 0.01$ ($x.xx \pm 0.25$)
3. M3x0.5 screw locked torque MAX 5Kgf.cm/0.49N.m
4. Any one of the four screw holes of the Open Frame chassis can be used as a PG connection point for CLASS I application.
5. Wire dimension range 24 - 14 AWG

MECHANICAL DRAWINGS

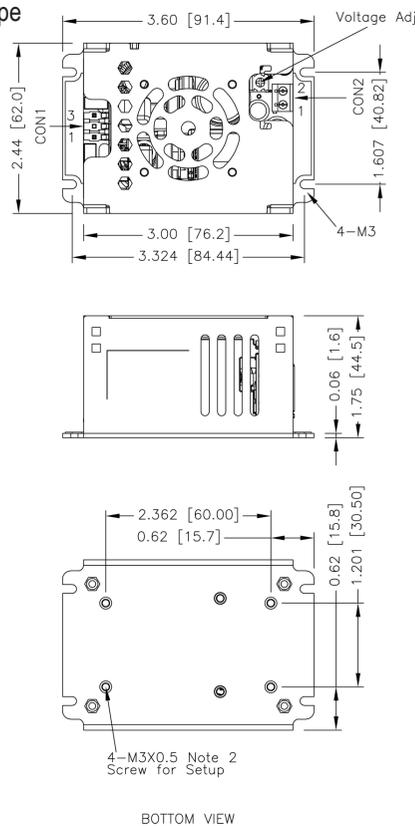
Open type - AC input



Open type - DC Input



Enclosed type



Din rail type

