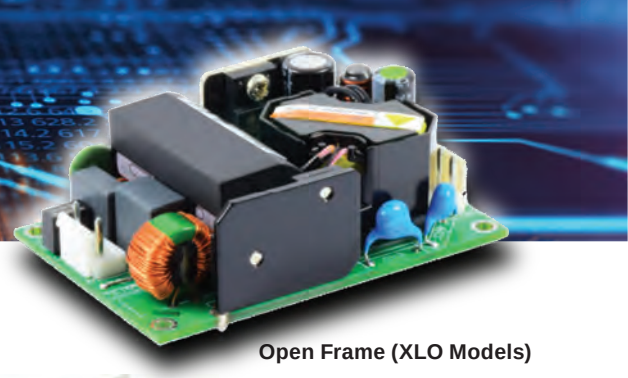
DATASHEET

N2Power™



Open Frame (XLO Models)

N2Power XL40 AC-DC Series
High Efficiency Power Supplies

U-Frame (XLU Models)

DIN Rail (XLD Models)

Enclosed (XLE Models)

HIGHLIGHTS

- 40 W AC-DC
- High Efficiency- Up to 93%
- Low standby power consumption ≤ 0.11 Watt
- Wide input voltage range 85 to 264 VAC
- Also supports DC-DC (input 120 to 370 VDC)
- Convection cooled
- Built-in EMI filter
- Output voltage adjustable
- Open frame dimensions 2.00" x 3.00" x 1.16"
- 3000VAC input to output reinforced insulation
- Protection type Class I or Class II
- Low leakage current: ≤ 75 µA at 264 VAC (33 µA at 115 VAC)
- Operating temperature -40° C to +85° C
- Operating altitude 5000 M
- 3 year warranty

CONNECTOR OPTIONS

Choose from JST, Molex or Terminal Block connectors:

PACKAGING CHOICES

The XL40 is not only one of the smallest 40 Watt power supplies on the market, it is also available in a choice of four different packages to suit diverse application requirements; XLO Open Frame models, XLU U-Frame models, XLE Enclosed models and XLD DIN Rail models. Despite its small size, the full 40 W output power is delivered with convection cooling only – no need for a fan!

APPLICATIONS

The excellent operating characteristics of the XL40 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 XL40 Series AC -DC power supplies, which provide up to 90% 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.

c UL us CB CE FC RoHS COMPLIANT REACH COMPLIANT

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Rev041620

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N2Power XL40 AC-DC Series

High Efficiency Power Supplies

MODEL	PART NUMBER	OUTPUT	VOLTAGE	REGULATION (%) (4)	MAXIMUM CURRENT (A)	RIPPLE & NOISE (P-P)
XLO40-05C XLU40-05C XLE40-05C XLD40-05C XLO40-05D XLU40-05D XLE40-05D XLD40-05D	400570-14-3 400569-14-3 400568-14-3 400567-14-3 400570-01-1 400569-01-1 400568-01-1 400567-01-1	V_{OUT}	5	±0.7	8	75 mV
XLO40-7P5C XLU40-7P5C XLE40-7P5C XLD40-7P5C XLO40-7P5D XLU40-7P5D XLE40-7P5D XLD40-7P5D	400570-18-5 400569-18-5 400568-18-5 400567-18-5 400570-05-2 400569-05-2 400568-05-2 400567-05-2	V_{OUT}	7.5	±0.5	5.34	75 mV
XLO40-09C XLU40-09C XLE40-09C XLD40-09C XLO40-09D XLU40-09D XLE40-09D XLD40-09D	400570-19-3 400569-19-3 400568-19-3 400567-19-3 400570-06-0 400569-06-0 400568-06-0 400567-06-0	V_{OUT}	9	±0.5	4.45	75 mV
XLO40-12C XLU40-12C XLE40-12C XLD40-12C XLO40-12D XLU40-12D XLE40-12D XLD40-12D	400570-15-1 400569-15-1 400568-15-1 400567-15-1 400570-02-9 400569-02-9 400568-02-9 400567-02-9	V_{OUT}	12	±0.5	3.34	75 mV
XLO40-15C XLU40-15C XLE40-15C XLD40-15C XLO40-15D XLU40-15D XLE40-15D XLD40-15D	400570-20-1 400569-20-1 400568-20-1 400567-20-1 400570-07-8 400569-07-8 400568-07-8 400567-07-8	V_{OUT}	15	±0.5	2.67	75 mV
XLO40-18C XLU40-18C XLE40-18C XLD40-18C XLO40-18D XLU40-18D XLE40-18D XLD40-18D	400570-16-9 400569-16-9 400568-16-9 400567-16-9 400570-03-7 400569-03-7 400568-03-7 400567-03-7	V_{OUT}	18	±0.5	2.23	75 mV
XLO40-24C XLU40-24C XLE40-24C XLD40-24C XLO40-24D XLU40-24D XLE40-24D XLD40-24D	400570-17-7 400569-17-7 400568-17-7 400567-17-7 400570-04-5 400569-04-5 400568-04-5 400567-04-5	V_{OUT}	24	±0.5	1.67	75 mV

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.

INPUT SPECIFICATIONS	
Nominal Input Voltage:	85 – 264 VAC 120 – 370 VDC
Input Frequency Range:	47 – 63 Hz
Input Current:	1.0 A @ 100 VAC 0.5 A @ 240 VAC
Input Protection:	15 A / 250 VAC fuse
Safety Isolation:	3000 VAC input to output 2500 VAC input to ground
Inrush Current:	60 A @ 230 VAC, 25˚C
Leakage Current:	75 µA @ 264 VAC 33 µA @ 115 VAC
OUTPUT SPECIFICATIONS	
Total Output:	40 W
Output Voltages:	5 V to 53 V
Voltage adjustability	±10%
Voltage Tolerance (2)	±1.0%
Line Regulation (3)	±0.2% (2)
Setup / Rise Time (5)	1 sec / 20ms, at full load
Hold-up Time:	Minimum 25 ms at 115 VAC, full load
Efficiency:	Up to 93%
Minimum Load:	No load
Over / Under Shoot:	Max 1% at turn-on
PROTECTION	
Overvoltage Protection:	Latch mode at 125 - 140% of V_{OUT}
Overload Protection:	Hiccup mode at 145% 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:	40W
Relative Humidity:	5% to 95% (non-cond.)
MTBF (full load at 25°C):	3,010,000 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.

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N2Power XL40 AC-DC Series

High Efficiency Power Supplies

MODEL	PART NUMBER	OUTPUT	VOLTAGE	REGULATION (%) [4]	MAXIMUM CURRENT (A)	RIPPLE & NOISE (P-P)
XLO40-28C XLU40-28C XLE40-28C XLD40-28C XLO40-28D XLU40-28D XLE40-28D XLD40-28D	400570-22-7 400569-22-7 400568-22-7 400567-22-7 400570-09-4 400569-09-4 400568-09-4 400567-09-4	V_{OUT}	28	±0.5	1.43	75 mV
XLO40-36C XLU40-36C XLE40-36C XLD40-36C XLO40-36D XLU40-36D XLE40-36D XLD40-36D	400570-24-2 400569-24-2 400568-24-2 400567-24-2 400570-11-0 400569-11-0 400568-11-0 400567-11-0	V_{OUT}	36	±0.5	1.12	75 mV
XLO40-48C XLU40-48C XLE40-48C XLD40-48C XLO40-48D XLU40-48D XLE40-48D XLD40-48D	400570-25-0 400569-25-0 400568-25-0 400567-25-0 400570-12-8 400569-12-8 400568-12-8 400567-12-8	V_{OUT}	48	±0.5	0.84	150 mV
XLO40-53C XLU40-53C XLE40-53C XLD40-53C XLO40-53D XLU40-53D XLE40-53D XLD40-53D	400570-26-8 400569-26-8 400568-26-8 400567-26-8 400570-13-6 400569-13-6 400568-13-6 400567-13-6	V_{OUT}	53	±0.5	0.77	150 mV

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.

Model numbers with suffix 'C' comply with Protection Class I.
Those with suffix 'D' comply with Protection Class II.

Compliance*

USA / Canada	International
Safety:	
UL 60950-1/62368-1	
CAN/CSA C22.2 No. 60950-1/ 62368-1	IEC 60950-1/ 62368-1
EMC:	Immunity:
Emission:	
EN55032, FCC Part 15 Subpart B	EN55024
Conducted: Class B	EN 61000-4-2
Radiated: Class B	EN 61000-4-3
EN 61000-3-2	EN 61000-4-4
EN 61000-3-3	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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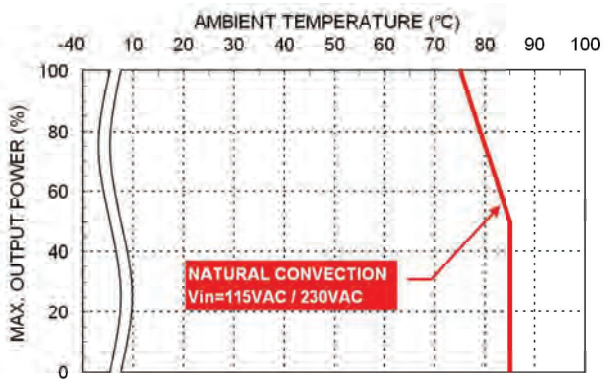
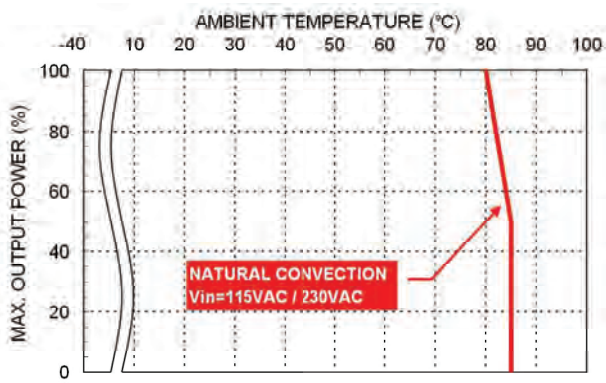
N2Power XL40 AC-DC Series

High Efficiency Power Supplies

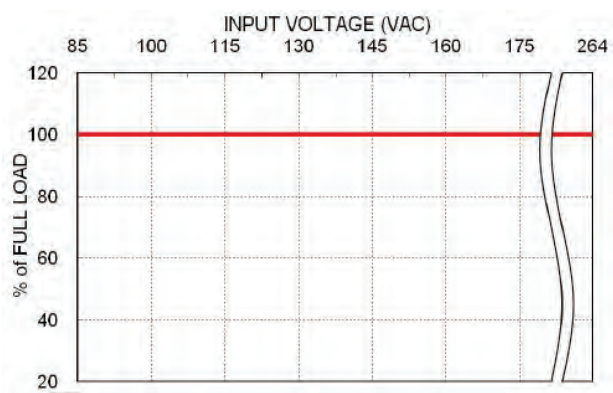
OPERATING CHARACTERISTICS



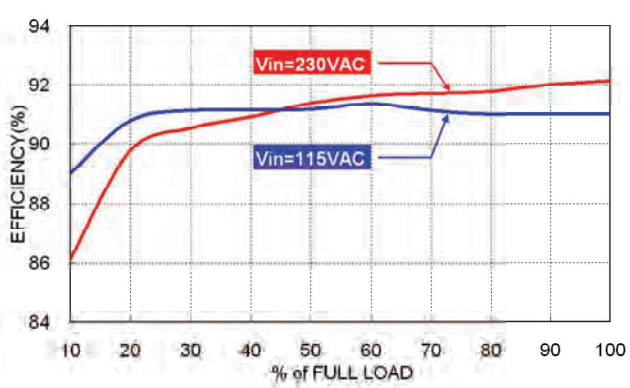
Derating Curve vs. Ambient Temperature
5V / 7.5V / 9V / 28V 'B' Models



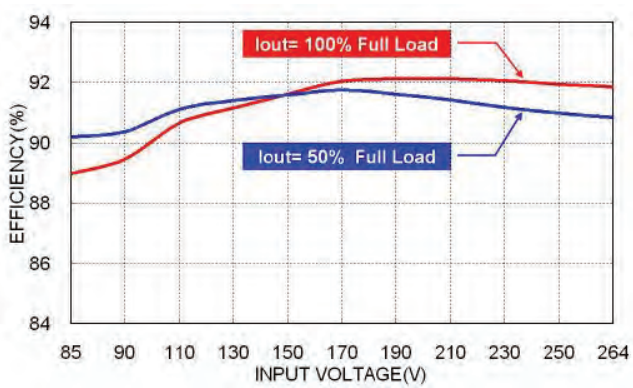
Derating Curve vs. Ambient Temperature
12V / 15V / 24V / 36V / 48V / 53V 'B' Models



Derating Curve vs. Input Voltage



Efficiency vs. Output Load
24V 'B' Model



Efficiency vs. Input Voltage
24V 'B' Model

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MECHANICAL DRAWINGS

Connector Pin Assignments

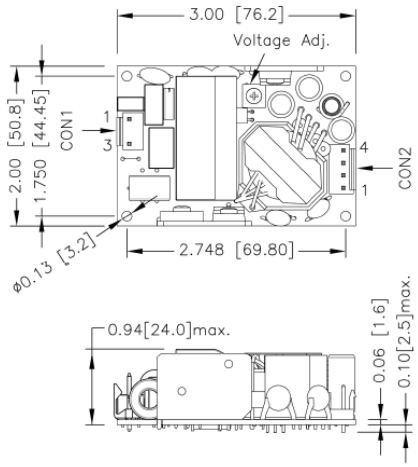
CON1 – Input Connector	
Pin 1	Line
Pin 3	Neutral

CON2 – Output Connector	
Pin 1, 2	- V_{out}
Pin 3, 4	+V_{out}

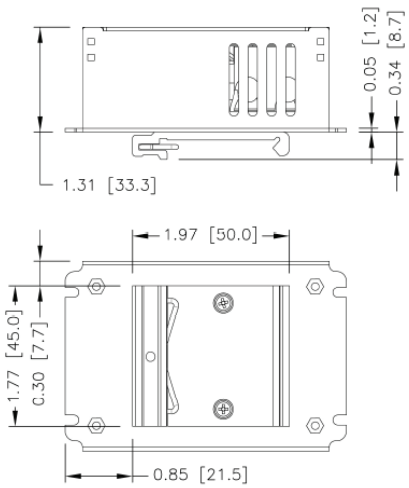
Notes

1. All dimensions are in inches [mm]
2. Tolerance: x.xx±0.02 (x.x±0.5) x.xxx±0.01 (x.xx±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.

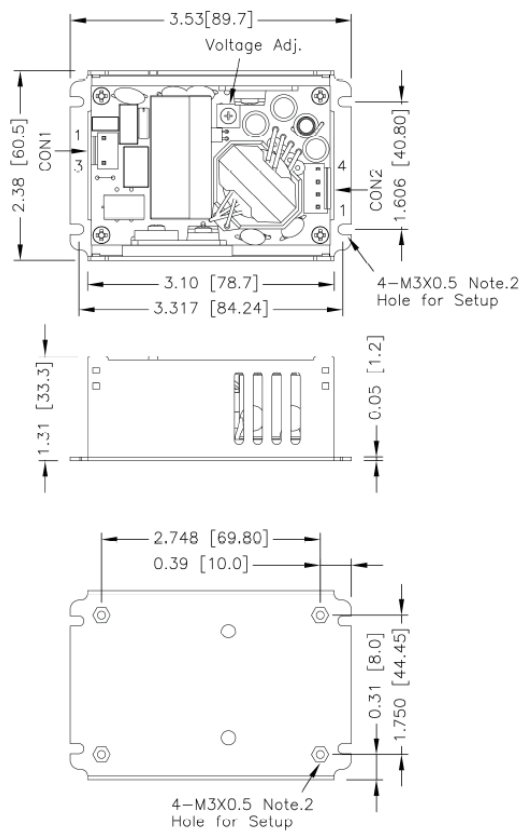
Open Frame type



DIN Rail type



U-Frame type



Enclosed type