

Open Frame (XLO Models)

N2Power XL40 AC-DC Multi Output Series High Efficiency Power Supplies

HIGHLIGHTS

- 40W AC-DC
- High efficiency (up to 90%)
- Low standby power consumption (≤ 0.15 W)
- Wide input-voltage range spans from 85 to 264 VAC
- Supports DC-DC input voltage from 120 to 370 VDC
- Convection cooled up to full power—no fan needed
- Built-in EMI filter
- Adjustable output voltage ($\pm 10\%$)
- Open frame dimensions: 2.00" \times 3.50" \times 0.98"
- 3,000 VAC input to output reinforced insulation
- Protection Class I and II
- Low leakage current (<75 μ A)
- Operating altitude up to 5,000 meters
- 3-year warranty



U-Frame (XLU Models)



DIN Rail (XLD Models)



Enclosed (XLE Models)

PACKAGING CHOICES

The XL40 Multi 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 Multi 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.

CONNECTOR OPTIONS

Choose from JST, Molex or Terminal Block connectors:



A POWER SUPPLY DESIGN LEADER

N2Power leads the power density race with its high efficiency XL40 Multi 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.

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



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Rev083120

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N2Power XL40 AC-DC Multi Output Series High Efficiency Power Supplies

Model Number	Part Number	Output 1			Output 2			Output 3		Regulation	Ripple & Noise (P&P)
		Voltage VDC	Current (Nominal) A	Current (MAX) A	Voltage VDC	Current (Nominal) A	Current (MAX) A	Voltage VDC	Current (MAX) A		
XLO40-05 N2C	400570-67-7	5	5	8	3.3	4	6			V1, ±0.5%, V2, ±1.5%	V1, V2 100mV p-p
XLU40-05 N2C	400569-67-7										
XLE40-05 N2C	400568-67-7										
XLD40-05 N2C	400567-67-7										
XLO40-05 N2D	400570-51-1										
XLU40-05 N2D	400569-51-1										
XLE40-05 N2D	400568-51-1										
XLD40-05 N2D	400567-51-1										
XLO40-12 N3C	400570-71-9	12	2.1	3.34	5	4	6			V1, ±0.5%, V2, ±1.5%	V1, 120mV p-p, V2, 100mV p-p
XLU40-12 N3C	400569-71-9										
XLE40-12 N3C	400568-71-9										
XLD40-12 N3C	400567-71-9										
XLO40-12 N3D	400570-55-2										
XLU40-12 N3D	400569-55-2										
XLE40-12 N3D	400568-55-2										
XLD40-12 N3D	400567-55-2										
XLO40-12 N2C	400570-72-7	12	2.1	3.34	3.3	4	6			V1, ±0.5%, V2, ±1.5%	V1, 120mV p-p, V2, 100mV p-p
XLU40-12 N2C	400569-72-7										
XLE40-12 N2C	400568-72-7										
XLD40-12 N2C	400567-72-7										
XLO40-12 N2D	400570-56-0										
XLU40-12 N2D	400569-56-0										
XLE40-12 N2D	400568-56-0										
XLD40-12 N2D	400567-56-0										
XLO40-15 N3C	400570-77-6	15	1.7	2.67	5	4	6			V1, ±0.5%, V2, ±1.5%	V1, 150mV p-p, V2, 100mV p-p
XLU40-15 N3C	400569-77-6										
XLE40-15 N3C	400568-77-6										
XLD40-15 N3C	400567-77-6										
XLO40-15 N3D	400570-61-0										
XLU40-15 N3D	400569-61-0										
XLE40-15 N3D	400568-61-0										
XLD40-15 N3D	400567-61-0										
XLO40-24 N3C	400570-79-1	24	1.05	1.67	5	4	6			V1, ±0.5%, V2, ±1.5%	V1, 240mV p-p, V2, 100mV p-p
XLU40-24 N3C	400569-79-1										
XLE40-24 N3C	400568-79-1										
XLD40-24 N3C	400567-79-1										
XLO40-24 N3D	400570-63-6										
XLU40-24 N3D	400569-63-6										
XLE40-24 N3D	400568-63-6										
XLD40-24 N3D	400567-63-6										
XLO40-28 N3C	400570-82-4	28	0.72	1.43	5	4	6			V1, ±0.5%, V2, ±1.5%	V1, 280mV p-p, V2, 100mV p-p
XLU40-28 N3C	400569-82-4										
XLE40-28 N3C	400568-82-4										
XLD40-28 N3C	400567-82-4										
XLO40-28 N3D	400570-66-9										
XLU40-28 N3D	400569-66-9										
XLE40-28 N3D	400568-66-9										
XLD40-28 N3D	400567-66-9										

Chart continued on next page...

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N2Power XL40 AC-DC Multi Output Series High Efficiency Power Supplies

...Chart continued from previous page

Model Number	Part Number	Output 1			Output 2			Output 3		Regulation	Ripple & Noise (P&P)
		Voltage VDC	Current (Nominal) A	Current (MAX) A	Voltage VDC	Current (Nominal) A	Current (MAX) A	Voltage VDC	Current (MAX) A		
XLO40-05 N2MP3C	400570-68-5	5	5	8	3.3	4	6	-5	0.5	V1, ±0.5%, V2, ±1.5%, V3, ±0.7%	V1, V2, V3, 100mV p-p
XLU40-05 N2MP3C	400569-68-5										
XLE40-05 N2MP3C	400568-68-5										
XLD40-05 N2MP3C	400567-68-5										
XLO40-05 N2MP3D	400570-52-9										
XLU40-05 N2MP3D	400569-52-9										
XLE40-05 N2MP3D	400568-52-9										
XLD40-05 N2MP3D	400567-52-9										
XLO40-05 N2P6C	400570-69-3	5	5	8	3.3	4	6	12	0.5	V1, ±0.5%, V2, ±1.5%, V3, ±0.7%	V1, V2, 100mV p-p, V3, 120mV p-p
XLU40-05 N2P6C	400569-69-3										
XLE40-05 N2P6C	400568-69-3										
XLD40-05 N2P6C	400567-69-3										
XLO40-05 N2P6D	400570-53-7										
XLU40-05 N2P6D	400569-53-7										
XLE40-05 N2P6D	400568-53-7										
XLD40-05 N2P6D	400567-53-7										
XLO40-05 N2MP6C	400570-70-1	5	5	8	3.3	4	6	-12	0.5	V1, ±0.5%, V2, ±1.5%, V3, ±0.7%	V1, V2, 100mV p-p, V3, 120mV p-p
XLU40-05 N2MP6C	400569-70-1										
XLE40-05 N2MP6C	400568-70-1										
XLD40-05 N2MP6C	400567-70-1										
XLO40-05 N2MP6D	400570-54-5										
XLU40-05 N2MP6D	400569-54-5										
XLE40-05 N2MP6D	400568-54-5										
XLD40-05 N2MP6D	400567-54-5										
XLO40-12 N3MP3C	400570-73-4	12	2.1	3.34	5	4	6	-5	0.5	V1, ±0.5%, V2, ±1.5%, V3, ±0.7%	V1, 120mV p-p, V2, V3, 100mV p-p
XLU40-12 N3MP3C	400569-73-4										
XLE40-12 N3MP3C	400568-73-4										
XLD40-12 N3MP3C	400567-73-4										
XLO40-12 N3MP3D	400570-57-8										
XLU40-12 N3MP3D	400569-57-8										
XLE40-12 N3MP3D	400568-57-8										
XLD40-12 N3MP3D	400567-57-8										
XLO40-12 N3MP6C	400570-74-2	12	2.1	3.34	5	4	6	-12	0.5	V1, ±0.5%, V2, ±1.5%, V3, ±0.7%	V1, V3, 120mV p-p, V2, 100mV p-p
XLU40-12 N3MP6C	400569-74-2										
XLE40-12 N3MP6C	400568-74-2										
XLD40-12 N3MP6C	400567-74-2										
XLO40-12 N3MP6D	400570-58-6										
XLU40-12 N3MP6D	400569-58-6										
XLE40-12 N3MP6D	400568-58-6										
XLD40-12 N3MP6D	400567-58-6										
XLO40-12 N2P3C	400570-75-0	12	2.1	3.34	3.3	4	6	5	0.5	V1, ±0.5%, V2, ±1.5%, V3, ±0.7%	V1, 120mV p-p, V2, V3, 100mV p-p
XLU40-12 N2P3C	400569-75-0										
XLE40-12 N2P3C	400568-75-0										
XLD40-12 N2P3C	400567-75-0										
XLO40-12 N2P3D	400570-59-4										
XLU40-12 N2P3D	400569-59-4										
XLE40-12 N2P3D	400568-59-4										
XLD40-12 N2P3D	400567-59-4										

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...Chart continued from previous page

Model Number	Part Number	Output 1			Output 2			Output 3		Regulation	Ripple & Noise (P&P)
		Voltage VDC	Current (Nominal) A	Current (MAX) A	Voltage VDC	Current (Nominal) A	Current (MAX) A	Voltage VDC	Current (MAX) A		
XLO40-12 N2MP6C	400570-76-8	12	2.1	3.34	3.3	4	6	-12	0.5	V1, ±0.5%, V2, ±1.5%, V3, ±0.7%	V1, V3, 120mV p-p, V2, 100mV p-p
XLU40-12 N2MP6C	400569-76-8										
XLE40-12 N2MP6C	400568-76-8										
XLD40-12 N2MP6C	400567-76-8										
MLO40-12 N2MP6D	400570-60-2										
XLU40-12 N2MP6D	400569-60-2										
XLE40-12 N2MP6D	400568-60-2										
XLD40-12 N2MP6D	400567-60-2										
MLO40-15 N3MP7C	400570-78-3	15	1.7	2.67	5	4	6	-15	0.5	V1, ±0.5%, V2, ±1.5%, V3, ±0.7%	V1, V3, 150mV p-p, V2, 100mV p-p
XLU40-15 N3MP7C	400569-78-3										
XLE40-15 N3MP7C	400568-78-3										
XLD40-15 N3MP7C	400567-78-3										
XLO40-15 N3MP7D	400570-62-8										
XLU40-15 N3MP7D	400569-62-8										
XLE40-15 N3MP7D	400568-62-8										
XLD40-15 N3MP7D	400567-62-8										
XLO40-24 N3P6C	400570-80-2	24	1.05	1.67	5	4	6	12	0.5	V1, ±0.5%, V2, ±1.5%, V3, ±0.7%	V1, 240mV p-p, V2, 100mV p-p, V3, 120mV p-p
XLU40-24 N3P6C	400569-80-2										
XLE40-24 N3P6C	400568-80-2										
XLD40-24 N3P6C	400567-80-2										
XLO40-24 N3P6D	400570-64-3										
XLU40-24 N3P6D	400569-64-3										
XLE40-24 N3P6D	400568-64-3										
XLD40-24 N3P6D	400567-64-3										
XLO40-24 N3MP6C	400570-81-9	24	1.05	1.67	5	4	6	-12	0.5	V1, ±0.5%, V2, ±1.5%, V3, ±0.7%	V1, 240mV p-p, V2, 100mV p-p, V3, 120mV p-p
XLU40-24 N3MP6C	400569-81-9										
XLE40-24 N3MP6C	400568-81-9										
XLD40-24 N3MP6C	400567-81-9										
XLO40-24 N3MP6D	400570-65-1										
XLU40-24 N3MP6D	400569-65-1										
XLE40-24 N3MP6D	400568-65-1										
XLD40-24 N3MP6D	400567-65-1										

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.

<p>Part Number Matrix in Excel Attachment</p> <p>MLO models are open frame, MLU models are U-frame, MLE models are enclosed, and MLD models are DIN rail.</p> <p>Model No. suffix: C = Class I protection; D = Class II protection</p> <p>Compliance * Safety:</p> <p>IEC/ EN/ ANSI/AAMI ES 60601-1 IEC/ EN/ UL 60950-1 IEC/EN/UL 62368-1</p> <p>EMC: EMI Emission</p> <p>EN 55011, EN 55032, EN 60601-1-2 & FCC Part 18/15(class B) EN 61000-3-2, EN 61000-3-3,</p> <p>EMC Immunity:</p> <p>EN 55024, EN 60601-1-2, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 6100-4-6, EN 61000-8, EN 61000-11</p>	<p>Notes:</p> <ol style="list-style-type: none"> All parameters NOT specifically mentioned are measured at 230 VAC input, rated load, and 25°C ambient temperature. The power supply is considered a component that will be installed into a unit of equipment. The equipment itself must also be certified as EMC compliant. <p>*This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems, or other such applications that necessitate specific safety and regulatory standards other than those listed herein.</p>
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INPUT SPECIFICATIONS	
Nominal Input Voltage:	85 – 264 VAC 120 – 370 VDC
Input Frequency Range:	47 – 63 Hz
Input Current:	1.05 A @ 100 VAC 0.55 A @ 240 VAC
Safety Isolation:	3000 VAC input to output 2500 VAC input to ground
Inrush Current:	60 A @ 230 VAC, 25°C
Earth Leakage (ER):	75 μ A @ 264 VAC
OUTPUT SPECIFICATIONS	
Total Output:	40 W
Output Voltages:	5 V to 28 V
Voltage Tolerance:	\pm 1.0%
Line Regulation:	\pm 0.2% (2)
Hold-Up Time:	Minimum 25 ms (115 VAC input, full power load)
Efficiency:	Up to 90%
Minimum Load:	0.5 W
PROTECTION	
Over Voltage Protection:	Latch mode at 125 – 140% of V_{OUT}
Over Power Protection:	Hiccup mode at 145% of I_{OUT}
Short Circuit Protection:	Continuous protection with auto recovery
OPERATING SPECIFICATIONS	
Operating Temperature:	-40 to +85°C
Storage Temperature:	- 40 to +85°C
Relative Humidity:	5% to 95% (non-cond.)
MTBF (full load at 25°C):	1.716×10^6

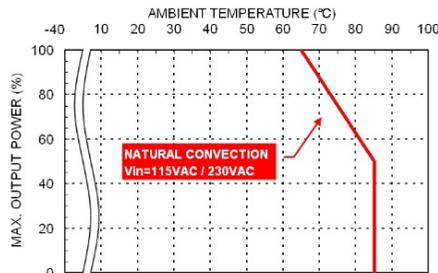
* See MTBF Report for additional temperature values

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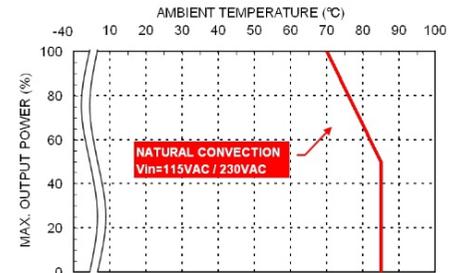
N2Power XL40 AC-DC Multi Output Series High Efficiency Power Supplies

CHARACTERISTIC CURVE



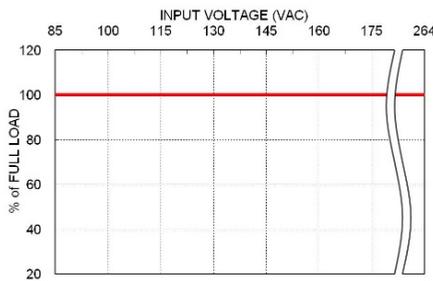
Derating Curve vs. Ambient Temperature

Dual Output Models



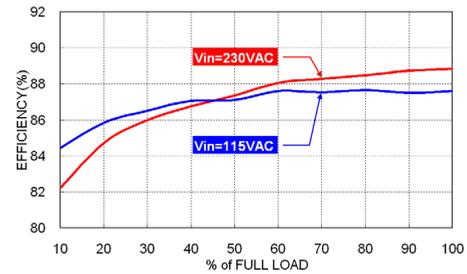
Derating Curve vs. Ambient Temperature

Triple Output Models



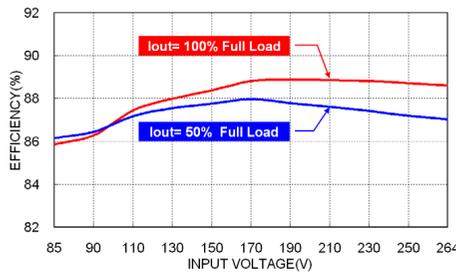
Derating Curve vs. Input Voltage

All Models



Efficiency vs. Output Load

XL40-12N3MP6D



Efficiency vs. Input Voltage

XL40-12N3MP6D

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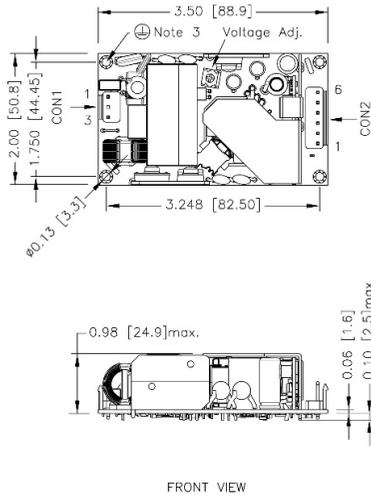
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Multi Output Series High Efficiency Power Supplies

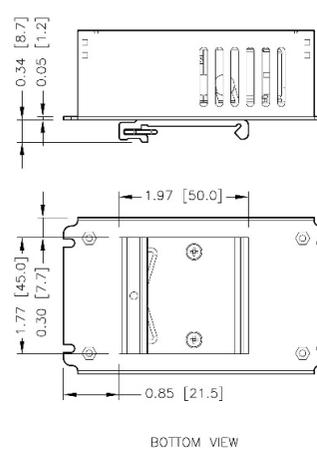
MECHANICAL DRAWING

XLO Open type



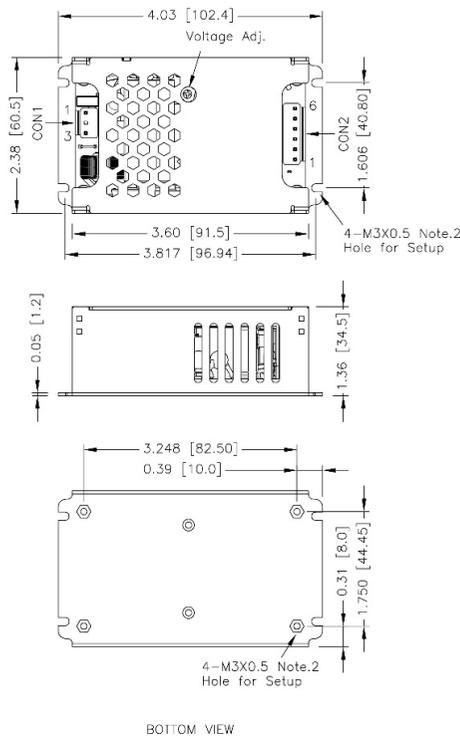
- 1.All dimensions in inch[mm]
Tolerance:x.xx±0.02[x.x±0.5] x.xxx±0.010[x.xx±0.25]
- 2.The screw locked torque: MAX 5.0kgf-cm/0.49N-m
- 3.The screws holes can be considered as PE connection for CLASS I application.

XLD Din rail type



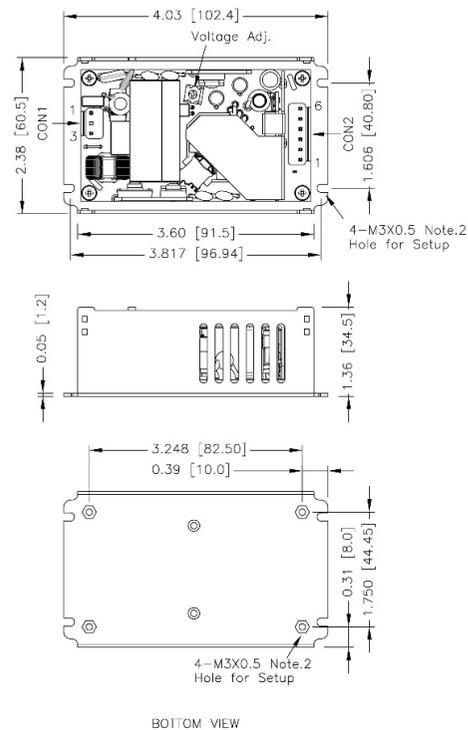
- 1.All dimensions in inch[mm]
Tolerance:x.xx±0.02[x.x±0.5] x.xxx±0.010[x.xx±0.25]
- 2.The screw locked torque: MAX 5.0kgf-cm/0.49N-m

XLE Enclosed type



- 1.All dimensions in inch[mm]
Tolerance:x.xx±0.02[x.x±0.5] x.xxx±0.010[x.xx±0.25]
- 2.The screw locked torque: MAX 5.0kgf-cm/0.49N-m

XLU U chassis type



- 1.All dimensions in inch[mm]
Tolerance:x.xx±0.02[x.x±0.5] x.xxx±0.010[x.xx±0.25]
- 2.The screw locked torque: MAX 5.0kgf-cm/0.49N-m

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CONNECTOR CONNECTIONS

CON1 – Input Connector

Pin Number	AC Input	DC Input
		Dual Output C, Dual Output D Triple Output C, Triple Output D
Pin 1	Line	DC+
Pin 3	Neutral	DC-

CON2 – Output Connector

Pin 1	Vout3
Pin 2,3	Com
Pin 4,5	Vout2
Pin 6	Vout1

*Either one of four screws holes of Chassis type can be considered as PE connection for CLASS I application.

CONNECTOR OPTIONS

Blank:	JST Type	-M	Molex Type	-T	Terminal Block
	Mates with housing CON1: VHR-3N CON2: VHR-6N		Mates with housing CON1: 09-50-8031 CON2: 09-50-8061		Screw locked torque MAX 2Kgf.cm/0.2N.m
	Crimp terminals CON1: SVH-21T-P1.1 CON2: SVH-21T-P1.1		Crimp terminals CON1: SD-2478 CON2: SD-2478		Wire dimension range 26 ~ 16AWG

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