

NPS2400

AC/DC Power Supply 2400W



■ Main Features

- ✓ High efficiency and compact size
- ✓ Active PFC
- ✓ Overload 150% (3600W peak!)
- ✓ Active input surge suppression circuit for reliability
- ✓ Digital Power regulation
- ✓ CPU control allows flexibility and multiple programmable features
- ✓ Battery charger function included
- ✓ Thermally regulated "long life" fan optimal cooling in harsh operating conditions
- ✓ Wide output voltages range
- ✓ Operating on 2 phases possible with power derating
- ✓ Suitable for **POWERMASTER** software (available for Windows and Android OS)

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TECHNICAL DATA

Model type	NPS2400-24		NPS2400-48		NPS2400-72		NPS2400-170	
OUTPUT DATA								
Rated voltage	24Vdc		48Vdc		72Vdc		170Vdc	
Adj. output voltage range	11.9...29Vdc		23...56Vdc		50...87Vdc		85...175Vdc	
Continuous current	100A		50A		33A		14A	
Overload limit in constant current mode	100A		50A		33A		14A	
Overload limit in hiccup mode (max. 5s)	150A		75A		50A		21A	
Load regulation	≤ 1% with Remote Sense active and at Vout nom.							
Ripple & Noise ¹	≤ 400mVpp							
Hold up time	≥ 10ms							
Protections	<ul style="list-style-type: none">Overload (with user settable threshold)Short circuitThermal protectionOutput overvoltage							
Output overvoltage protection	≥ 33Vdc		≥ 68Vdc		≥ 100Vdc		≥ 200Vdc	
Status Signals	<ul style="list-style-type: none">DC OK / CHARGE - green LEDALARM - red LEDDry contact (SPDT, 24Vdc / 1A)Alphanumeric LCD display							
User interface	<ul style="list-style-type: none">LCD with 4 keys0...10V voltage and 4...20mA current output for output current 0...100% INAuxiliary 12V / 100mA isolated power supplyLoad voltage senseOptoisolated remote shut down inputUSB communication interface via communication module (COMM-BOX)Optional: remote temperature sensor for battery charging (WNTC-2MT)							
Operating modes	<ul style="list-style-type: none">Overboost: allows 150% output power for 5sec, then off for 10secConstant current: adjustable 10...100% loadBattery charger: for lead acid, nickel and lithium batteries							
Parallel connection	Possible for power or redundancy (includes internal ORing circuit)							
INPUT DATA								
Input AC rated voltage ²	Nominal: 2/3 phases, 400...500Vac (UL certified)							
Frequency	Range: 340...550Vac 47...63Hz							
Input DC rated voltage	520...725Vdc							
Input AC rated current								
Vin = 400Vac	4.5A							
Vin = 500Vac	3.5A							
Input DC rated current								
Vin = 520Vdc	5.2A							
Vin = 725Vdc	3.8A							
Power Factor Correction	Active / > 0.9							
Inrush peak current	≤ 10A active Inrush current limiter							
Touch (leakage) current	≤ 0.6mA							
Internal protection fuse	None, external fuse must be provided							
Recommended external protection	Fuse 3x 10AT or 3x MCB 10A C curve It is strongly recommended to provide external surge arresters (SPD) according to local regulations.							
GENERAL DATA								
Efficiency	> 92%				> 93%		> 92%	
Dissipated power	< 200W				< 180W		< 200W	
Operating temperature ³⁴	- 40°C...+ 70°C UL certified up to 50°C							
Derating	- 60W/°C over 50°C Automatic power derating (1200W) for 2 phases operation							
Storage temperature	- 40°C...+ 80°C							
Humidity	5...95% r.H. non condensing							
Life time expectation	458'253h (52.3 years) at 25°C ambient full load							
Overvoltage category	<ul style="list-style-type: none">EN50178	III						
Pollution degree	<ul style="list-style-type: none">IEC60664-1	2						
Protection Class	<ul style="list-style-type: none">CLASS	I						
Input / output isolation	4.2kVdc							
Input / ground isolation	2.2kVdc							
Output / ground isolation	0.75kVdc							
Safety Standards	<ul style="list-style-type: none">UL508EN60950EN50178	(certified E356563) (reference) (reference)						
EMC Emission	<ul style="list-style-type: none">EN55011 (CISPR11)EN55022 (CISPR22)EN61000-3-2	Class A Class A Class A						
EMC Immunity	<ul style="list-style-type: none">EN61000-4-2EN61000-4-3EN61000-4-4EN61000-4-5FN61000-4-11	Level 3 Level 3 Level 4 Level 4 Level 2						

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Protection degree	▪ EN60529	IP20
Vibration sinuosoidal	▪ IEC 60068-2-6	(5-17.8Hz: ± 1.6 mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)
Shock	▪ IEC 60068-2-27	(30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total)
Connection terminals Input	1.5...6mm ² , screw type header (16...10AWG)	
Connection terminals Output	Up to 35mm ² , screw type header (2AWG)	
Connection terminals Auxiliary	1.5mm ² , screw type pluggable 16 pin (16AWG)	
Case material	Aluminum	
Weight	2.8kg	
Size (W x H x D)	233.0 x 160.0 x 101.0mm	

1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1 μ F MKP parallel capacitor.

2) Automatic power derating (1200W) for 2 phases operation.

3) Start-up type tested: - 40°C, possible at nominal voltage with load deration.

4) For temperature $\leq -20^{\circ}\text{C}$ the LCD is not operating, but the unit will operate correctly.

Notes:

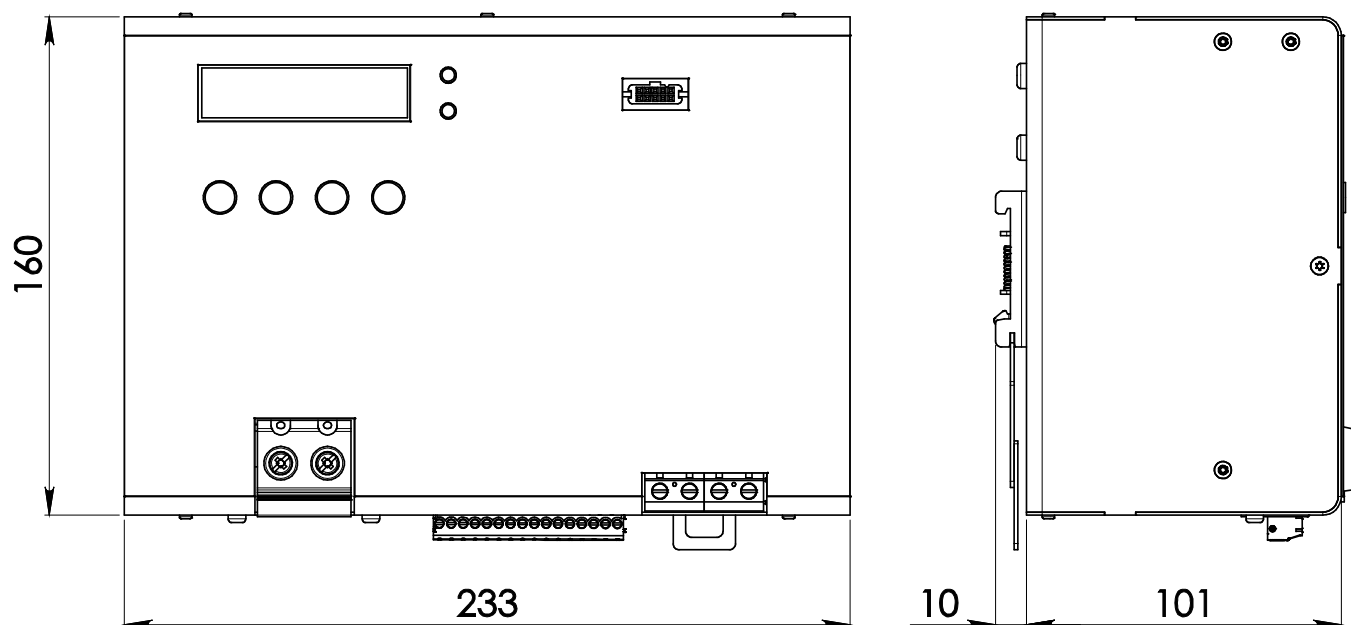
- For more details, performance and description regarding all parameters not indicated in the above table, please refer to user manual, downloadable from www.nextys.com

- Technical parameters are typical, measured in laboratory environment at 25°C and 400Vac / 50Hz, at nominal values, after minimum 5 minutes of operation.

- Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details.

- Data may change without prior notice in order to improve the product.

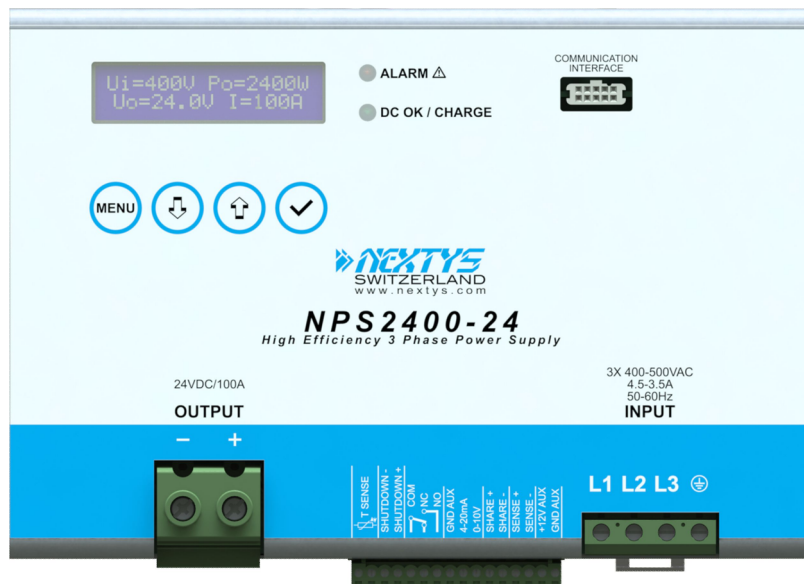
DIMENSIONS



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CONNECTION



Input Connection:

3 phases:

- L1 = phase 1
- L2 = phase 2
- L3 = phase 3
- | = Earth ground

DC:

- L1 = + Positive DC
- L2 = - Negative DC
- L3 = do not connect
- | = Earth ground

Output Connection:

- + = Positive DC
- - = Negative DC

Auxiliary Connections:

- TSENSE = Temperature sensor
- SHUTDOWN = Remote shutdown (+/-)
- Dry contact = Auxiliary Relay COM / NC / NO
- GNA AUX = Auxiliary Supply GND
- 4-20mA = Output current measurement 4...20mA
- 0-10V = Output current measurement 0...10V
- SHARE = Load share BUS (+/-)
- SENSE = Remote voltage sense (+/-9
- +12V AUX = Auxiliary Supply 12Vdc / 100mA
- GNA AUX = Auxiliary Supply GND