Main Features

- High efficiency and compact size
- Overload 150%
- Constant current or hiccup mode limitation, user settable
- Easy parallelable for power increase
- Natural convection cooling

TECHNICAL DATA

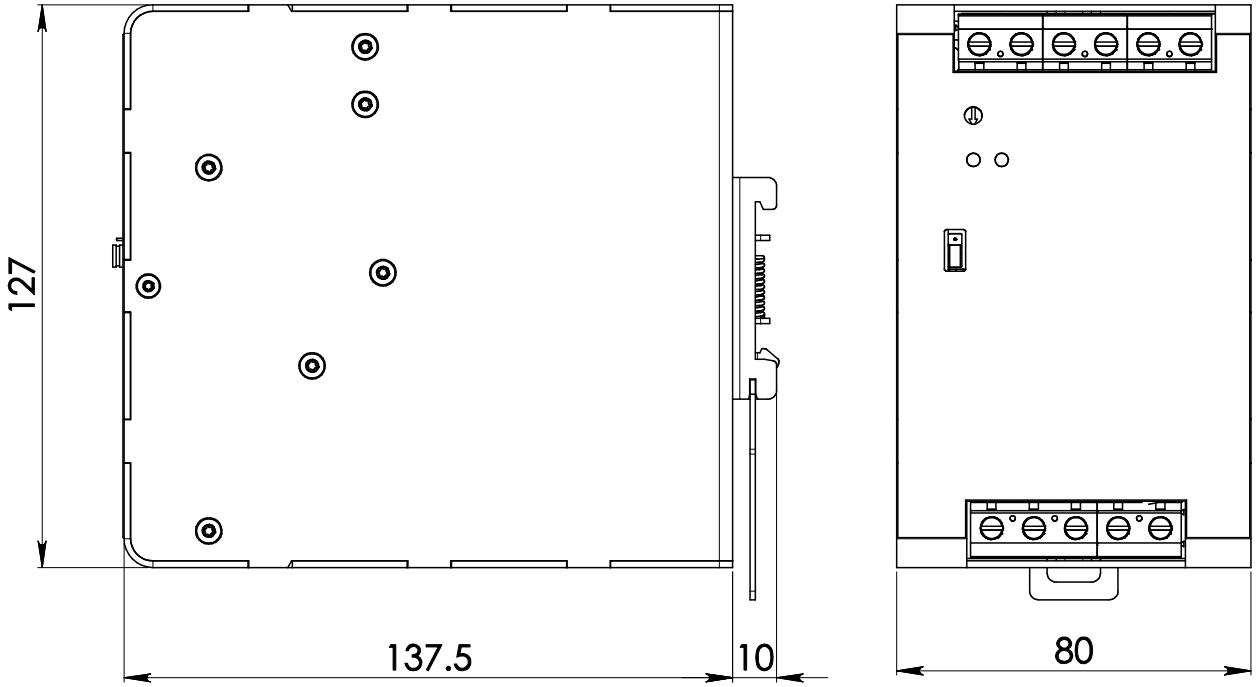
Model type	NPSM501-24	NPSM501-48	NPSM501-72
OUTPUT DATA			
Rated voltage	24Vdc	48Vdc	72Vdc
Adj. output voltage range	23…28Vdc	45…55Vdc	72…85Vdc
Continuous current	20A	10A	6.7A
Overload limit in constant current mode	22A	11A	7.5A
Overload limit in hiccup mode (max. 5s)	30A	15A	10A
Load regulation	≤ 1%	≤ 0.5%	
Ripple & Noise[1]	≤ 100mVpp		≤ 200mVpp
Hold up time	≥ 35ms		
Protections	▪ Overload, short circuit: Constant current or Hiccup mode (user settable) ▪ Thermal protection ▪ Output overvoltage		
Output overvoltage protection	≥ 33Vdc	≥ 68Vdc	≥ 100Vdc
Status Signals	▪ **DC OK** - green LED ▪ **OVERLOAD** - red LED ▪ **DC OK** - dry contact (NO, 24Vdc / 1A)		
Parallel connection[2]	Possible for power or redundancy (with external ORing module)		
INPUT DATA			
Input AC rated voltage Frequency	Nominal: 120 / 240Vac (UL certified) Range: 90…132 / 187…264Vac Settable with external Voltage Selector Bridge 47...63Hz		
Input DC rated voltage	270...345Vdc (without external Voltage Selector Bridge)		
Input AC rated current Vin = 120Vac Vin = 240Vac	 7.2A 4.3A		
Input DC rated current Vin = 270Vdc Vin = 345Vdc	 2.2A 1.9A		
Inrush peak current[3] / I^2t	≤ 25A / 0.75A^2s		
Touch (leakage) current	≤ 1mA		
Internal protection fuse	None, external fuse must be provided		
Recommended external protection	Fuse 16AT or MCB 16A C It is strongly recommended to provide external surge arresters (SPD) according to local regulations.		
GENERAL DATA			
Efficiency	> 91%	> 91.5%	> 92%
Dissipated power	< 48W	< 45W	< 42W
Operating temperature[4]	- 40°C...+ 70°C UL certified up to 45°C		
Derating	- 7.2W/°C over 45°C		
Storage temperature	- 40°C...+ 80°C		
Humidity	5…95% r.H. non condensing		
Life time expectation	64'000h (7.3 years) at 25°C ambient full load		
MTBF	▪ MIL-HDBK-217F	> 500'000h at 25°C ambient full load	
Overvoltage category Pollution degree	▪ EN50178 III ▪ IEC60664-1 2		
Protection Class	▪ CLASS I		
Input / output isolation	4.2kVdc		
Input / ground isolation	2.2kVdc		
Output / ground isolation	0.75kVdc		
Safety Standards	▪ UL508 (certified E356563) ▪ IEC/EN61010-1 ▪ IEC/EN61010-2-201 ▪ IEC/EN60950		
EMC Emission	▪ EN55011 (CISPR11) Class A ▪ EN55022 (CISPR22) Class A		
EMC Immunity	▪ EN61000-4-2 Level 3 ▪ EN61000-4-3 Level 3 ▪ EN61000-4-4 Level 3 ▪ EN61000-4-5 Level 4 ▪ EN61000-4-11 Level 2		
Protection degree	▪ EN60529 IP20		
Vibration sinuosoidal	▪ IEC 60068-2-6 (5-17.8Hz: ±1.6mm; 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	1.5…6mm^2, screw type header (24...12AWG)		

Case material	Aluminum
Weight	1.3kg
Size (W x H x D)	80.0 x 127.0 x 137.5mm

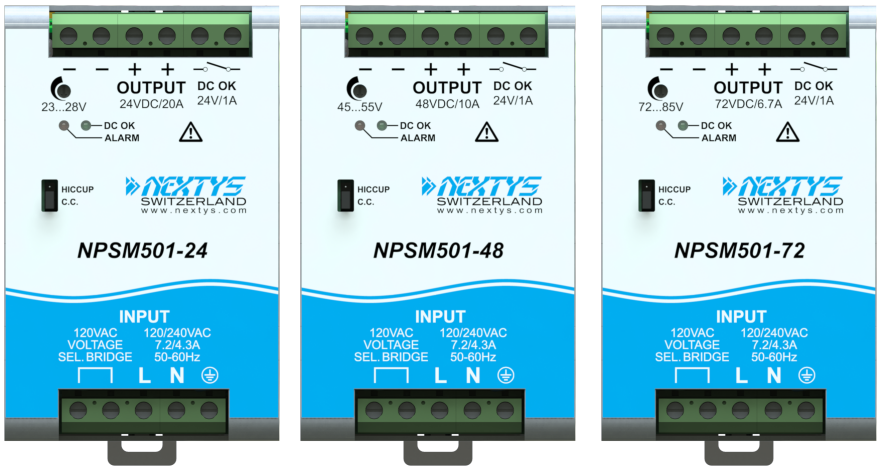
1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.
2) Pay attention, set the current limitation mode jumper on C.C. mode when connecting more units in parallel.
3) Peak current measured after 0.2ms from main connection; 240Vac/50Hz; Ambient temperature at 25°C; Cold Start.
4) Start-up type tested: - 40°C, possible at nominal voltage with load deration.

Notes:
- Technical parameters are typical, measured in laboratory environment at 25°C and 240Vac / 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



CONNECTION



Input Connection:

Single phase:
- L = Line
- N = Neutral
- ⏚ = Earth ground
- 120Vac Bridge used only when used at 120Vac

DC:
- L = + Positive DC
- N = - Negative DC
- ⏚ = Earth ground

Output Connection:

- + = Positive DC
- - = Negative DC

Signalling:
DC OK: dry contact
- NO
- COM