■ *Main Features*

- High efficiency and extremely compact size
- Only 35mm width aluminum enclosure
- Active PFC
- Overload 150%
- Constant current or hiccup mode limitation, user settable
- Wide range of output voltage
- Easy parallelable for power increase
- Up to 60°C operating temperature with no derating

TECHNICAL DATA

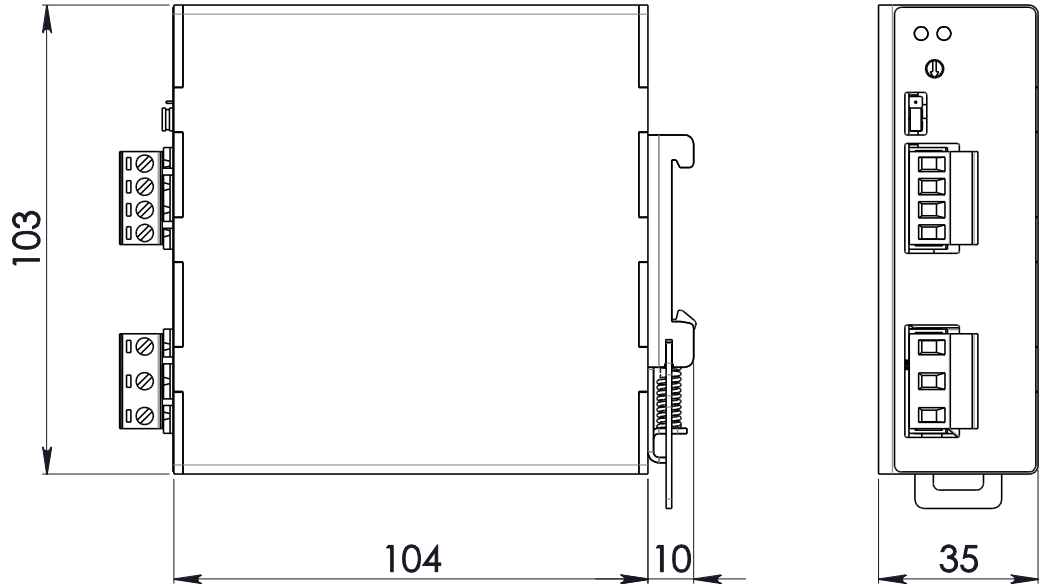
Model type	NPSM121-24	NPSM121-24P	NPSM121-48	NPSM121-48P
OUTPUT DATA				
Rated voltage	24Vdc		48Vdc	
Adj. output voltage range	11.5…29Vdc		23…56Vdc	
Continuous current	5.0A		2.5A	
Overload limit in constant current mode	7.5A		3.75A	
Overload limit in hiccup mode (max. 5s)	7.5A		3.75A	
Load regulation	≤ 1%	≤ 3%	≤ 0.5%	≤ 1.5%
Ripple & Noise[1]	≤ 60mVpp			
Hold up time Vin = 120Vac Vin = 240Vac	≥ 20ms ≥ 30ms			
Protections	▪ Overload, short circuit: Constant current or Hiccup mode (user settable) ▪ Thermal protection ▪ Input undervoltage lockout ▪ Output overvoltage			
Output overvoltage protection	≥ 33Vdc		≥ 68Vdc	
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) ▪ **P** (models) - include internal ORing circuit			
INPUT DATA				
Input AC rated voltage Frequency	Nominal: 120…240Vac (UL certified) Range: 90…264Vac 47...63Hz			
Input DC rated voltage	110...345Vdc			
Input AC rated current Vin = 120Vac Vin = 240Vac	 1.4A 0.7A			
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 1.4A 0.5A			
Power factor correction	Active / > 0.9			
Inrush peak current[3] / I^2t	≤ 32A / 0.49A^2s			
Touch (leakage) current	≤ 0.5mA			
Internal protection fuse	Fuse 3.15AT (not user replaceable)			
Recommended external protection	Fuse 4AT or MCB 4A C curve It is strongly recommended to provide external surge arresters (SPD) according to local regulations.			
GENERAL DATA				
Efficiency	> 90%	> 89%	> 90%	> 89%
Dissipated power	< 13.5W	< 15W	< 13.5W	< 15W
Operating temperature[4]	- 35°C...+ 70°C UL certified up to 60°C			
Derating	- 1.2W/°C over 60°C			
Storage temperature	- 40°C...+ 80°C			
Humidity	5…95% r.H. non condensing			
Life time expectation	74'640h (8.5 years) at 25°C ambient full load			
MTBF	▪ MIL-HDBK-217F	> 500'000h at 25°C ambient full load		
Overvoltage category Pollution degree	▪ EN50178 ▪ IEC60664-1	III 2		
Protection Class	▪ CLASS	I		
Input / output isolation	4.2kVdc			
Input / ground isolation	2.2kVdc			
Output / ground isolation	0.75kVdc			
Safety Standards	▪ UL508 ▪ UL61010-1 ▪ UL61010-2-201 ▪ IEC/EN61010-1 ▪ IEC/EN61010-2-201	(certified E356563) (certified E356563) (certified E356563)		
EMC Emission	▪ EN55011 (CISPR11) ▪ EN61000-3-2 ▪ EN61000-3-3	Class B Class A		
EMC Immunity	▪ EN61000-4-2 ▪ EN61000-4-3 ▪ EN61000-4-4 ▪ EN61000-4-5 ▪ EN61000-4-6 ▪ EN61000-4-8 ▪ EN61000-4-11	Level 3 (Air), Level 2 (Contact) Level 3 (80-1000MHz), Level 2 (1.4-6GHz) Level 3 Level 3 Level 3 Level 4 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	2.5mm^2, screw type pluggable (24...12AWG)			

Case material	Aluminum
Weight	0.45kg
Size (W x H x D)	35.0 x 103.0 x 104.0mm

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: - 35°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

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

Output Connection:

- + = Positive DC
- - = Negative DC

Signalling:
DC OK: dry contact
- NO
- COM