Main Features

- High efficiency and extremely compact size
- Only 56mm 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
- All models available as version **(PH)**
- Codes ended with **(H)**: include enhanced transient overvoltage protection (> 6kV)

TECHNICAL DATA

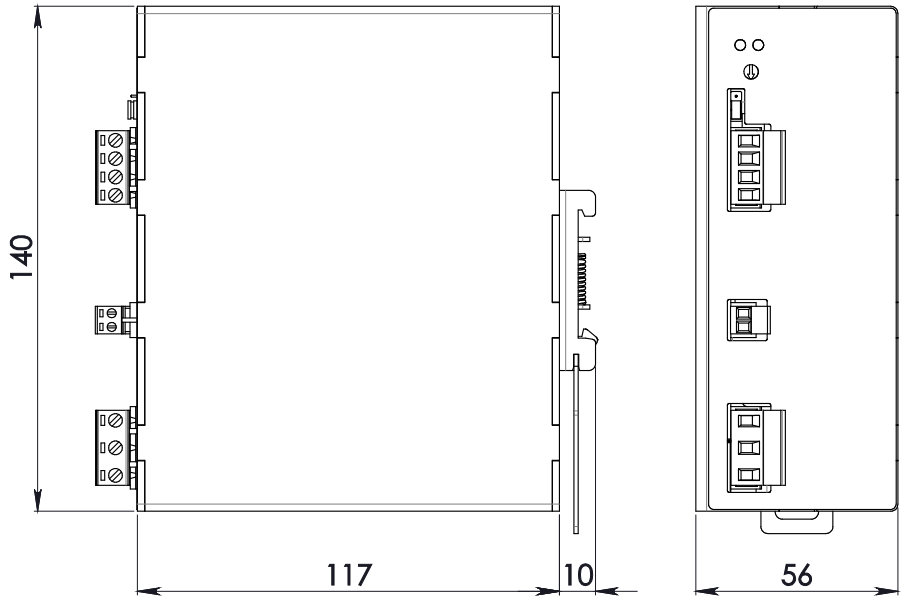
Model type[1]	NPSM481-24 (P,H)	NPSM481-36 (P,H)	NPSM481-48 (P,H)	NPSM481-72 (P,H)
OUTPUT DATA				
Rated voltage	24Vdc	36Vdc	48Vdc	72Vdc
Adj. output voltage range	22…29Vdc	32…40Vdc	45…55Vdc	70…85Vdc
Continuous current	20A	14A	10A	6.7A
Overload limit in constant current mode	21A	16A	12A	7.0A
Overload limit in hiccup mode (max. 5s)	30A	20A	17A	12A
Load regulation	≤ 1.5%	≤ 1.0%	≤ 0.5%	
Ripple & Noise[2]	≤ 150mVpp	≤ 200mVpp		≤ 350mVpp
Hold up time	≥ 25ms	≥ 20ms	≥ 25ms	
Protections	▪ Overload, short circuit: Constant current or Hiccup mode (user settable) ▪ Thermal protection ▪ Input undervoltage lockout ▪ Output overvoltage			
Output overvoltage protection	≥ 33Vdc	≥ 51Vdc	≥ 68Vdc	≥ 100Vdc
Status Signals	▪ **DC OK** - green LED ▪ **OVERLOAD** - red LED ▪ **DC OK** - dry contact (NO, 24Vdc / 1A)			
Parallel connection[3]	▪ 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	4.8A 2.4A	5.5A 2.8A	4.8A 2.4A	
Input DC rated current Vin = 110Vdc Vin = 345Vdc	4.9A 1.7A	5.3A 1.9A	4.9A 1.7A	
Power factor correction	Active / > 0.9			
Inrush peak current	≤ 35A			
Touch (leakage) current	≤ 0.9mA			
Internal protection fuse	Fuse 8AT (not user replaceable)			
Recommended external protection	Fuse 10AT or MCB 10A C curve It is strongly recommended to provide external surge arresters (SPD) according to local regulations.			
GENERAL DATA				
Efficiency	> 93%	> 94%	> 94%	
Dissipated power	< 36.5W	< 32.5W	< 31W	
Operating temperature[4]	- 40°C…+ 70°C UL certified up to 50°C at 120Vac or up to 60°C at 240Vac			
Derating	- 7.6W/°C over 50°C at 120Vac - 7.2W/°C over 60°C at 240Vac			
Storage temperature	- 40°C…+ 80°C			
Humidity	5…95% r.H. non condensing			
Life time expectation	167'953h (19.1 years) at 25°C ambient full load			
MTBF	▪ MIL-HDBK-217F	> 600'000h 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[5]	▪ UL508 ▪ EN60950 ▪ EN50178	(certified E356563) (reference) (reference)		
EMC Emission	▪ EN55011 (CISPR11) ▪ EN55022 (CISPR22) ▪ EN61000-3-2	Class B Class B Class A		
EMC Immunity	▪ EN61000-4-2 ▪ EN61000-4-3 ▪ EN61000-4-4 ▪ EN61000-4-5 ▪ EN61000-4-11	Level 3 Level 3 Level 4 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	2.5mm², screw type pluggable (24...12AWG)
Case material	Aluminum
Weight	1.1kg
Size (W x H x D)	56.0 x 140.0 x 117.0mm

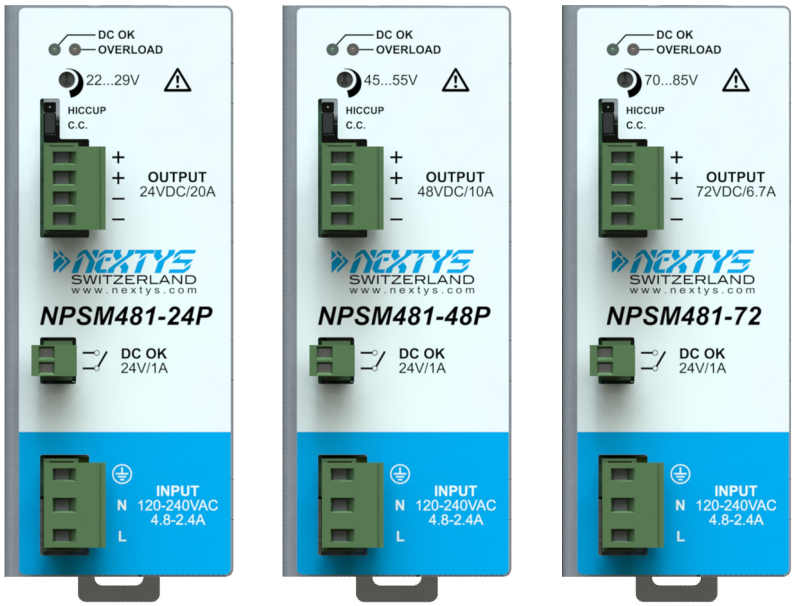
1) Codes ended with **(H)**: include enhanced transient overvoltage protection (> 6kV)
2) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.
3) Pay attention, set the current limitation mode jumper on C.C. mode when connecting more units in parallel.
4) Start-up type tested: - 40°C, possible at nominal voltage with load deration.
5) Codes ended with **(H)** and NPSM481-36 (P) are not UL508 certified.

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