











■ Main Features

- High efficiency and compact size
- Active PFC
- Overload 150%
- Excellent long lasting overvoltage withstand (up to 550Vac)
- Usable for broad range of industrial, telecom and renewable energy applications

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ΤΕCΗΝΙCΑΙ ΠΑΤΑ

TECHNICAL DATA	1
Model type	NPSM480-24
OUTPUT DATA	A111
Rated voltage	24Vdc
Adj. output voltage range Continuous current	2328Vdc 20A
Overload limit	28A
Short circuit peak current	50A
Load regulation	≤1%
Ripple & Noise ¹	≤50mVpp
Hold up time	≥ 50ms
	Overload, short circuit: Hiccup mode
Protections	Thermal protection
	Output overvoltage
Output overvoltage protection	≥ 33Vdc
	DC OK - green LED
Status Signals	OVERLOAD - red LED
	DC OK - dry contact (NO, 24Vdc / 1A)
Parallel connection	Possible for redundancy (with external ORing module)
INPUT DATA	
Input AC rated voltage	Nominal: 200240Vac (UL certified)
Frequency	Range: 187264Vac 4763Hz
Input DC rated voltage	
Input AC rated current	250375Vdc
Input AC rated current Vin = 200Vac	2.9A
Vin = 240Vac	2.5A 2.5A
Input DC rated current	
Vin = 250Vdc	2.2A
Vin = 375Vdc	1.5A
Power factor correction	Active / > 0.9
Inrush peak current	≤ 40A
Touch (leakage) current	≤0.5mA
Internal protection fuse	None, external fuse must be provided
internal protection rase	Fuse 6.3AT or MCB 6A C curve or 4A D curve
Recommended external protection	It is strongly recommended to provide external surge arresters (SPD) according to local regulations.
GENERAL DATA	
Efficiency	> 91%
Dissipated power	<48W
- total particle provides	
	- 40°C+ 70°C
Operating temperature ²	
	- 40°C+ 70°C
Operating temperature ²	- 40°C+ 70°C UL certified up to 45°C
Operating temperature ² Derating	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C
Operating temperature ² Derating Storage temperature	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C - 40°C+ 80°C
Operating temperature ² Derating Storage temperature Humidity	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C - 40°C+ 80°C 595% r.H. non condensing
Operating temperature ² Derating Storage temperature Humidity Life time expectation	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C - 40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -10W/°C over 45°C -40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load ■ EN50178 III
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -10W/°C over 45°C -40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load • EN50178 III • IEC60664-1 2
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -10W/°C over 45°C -40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load EN50178 III IEC60664-1 2 CLASS I
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -10W/°C over 45°C -40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load ■ EN50178 III ■ IEC60664-1 2 ■ CLASS I 4.2kVdc 2.2kVdc
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Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -10W/°C over 45°C -40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load EN50178 III IEC60664-1 2 CLASS I 4.2kVdc 2.2kVdc 0.75kVdc
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Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -10W/°C over 45°C -40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load • EN50178 III • IEC60664-1 2 • CLASS I 4.2kVdc
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -10W/°C over 45°C -40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load EN50178 III IEC60664-1 2 CLASS I 4.2kVdc 2.2kVdc 0.75kVdc UL508 (certified E356563) EN60950 (reference) EN50178 (reference) EN50178 (reference)
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -10W/°C over 45°C -40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load • EN50178 III • IEC60664-1 2 • CLASS I 4.2kVdc
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Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards EMC Emission	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load ENS0178 III IEC60664-1 2 CLASS I 4.2kVdc 2.2kVdc 0.75kVdc UL508 (certified E356563) EN60950 (reference) ENS0178 (reference) ENS0100-3-2 Class A EN61000-4-2 Level 3 EN61000-4-3 Level 3 EN61000-4-5 Level 3
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards EMC Emission EMC Immunity	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C - 40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load • EN50178 III • IEC60664-1 2 • CLASS I - 4.2kVdc 2.2kVdc 0.75kVdc • UL508 (certified E356563) • EN60950 (reference) • EN50178 (reference) • EN50178 (reference) • EN50178 (reference) • EN50179 (class A - EN55021 (CISPR21) Class A - EN55022 (CISPR22) Class A - EN61000-3-2 Class A - EN61000-4-2 Level 3 - EN61000-4-3 Level 3 - EN61000-4-5 Level 3 - EN61000-4-5 Level 3 - EN61000-4-5 Level 3 - EN61000-4-5 Level 3 - EN61000-4-1 Level 3 - EN61000-4-1 Level 3 - EN61000-4-1 Level 3 - EN61000-4-1 Level 3
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards EMC Emission EMC Immunity Protection degree	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C - 40°C+ 80°C - 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load - ENS0178 III - IEC60664-1 2 - CLASS I 4.2kVdc 2.2kVdc 0.75kVdc - UL508 (certified E356563) - EN60950 (reference) - ENS0178 (reference) - ENS0178 (reference) - ENS0178 (reference) - ENS0178 (reference) - ENS0170 Class A - EN5000-3-2 Class A - EN61000-3-2 Class A - EN61000-4-2 Level 3 - EN61000-4-3 Level 3 - EN61000-4-5 Level 3 - EN61000-4-5 Level 3 - EN61000-4-11 Level 2 - EN61000-4-11 Level 2
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards EMC Emission EMC Immunity Protection degree Vibration sinuosoidal	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C - 40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load • EN50178 III • IEC60664-1 2 • CLASS I - 4.2kVdc - 2.2kVdc - UL508 (certified E356563) • EN60950 (reference) • EN50178 (reference) • EN50178 (reference) • EN55012 (CISPR11) Class A - EN55022 (CISPR22) Class A - EN61000-3-2 Class A - EN61000-4-2 Level 3 • EN61000-4-3 Level 3 • EN61000-4-4 Level 3 • EN61000-4-5 Level 3 • EN61000-4-1 Level 2 • EN61000-4-1 Level 2 • EN61000-4-1 Level 2 • EN60529 IP20 • IEC 60068-2-6 (5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards EMC Emission EMC Immunity Protection degree Vibration sinuosoidal Shock	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -40°C+ 80°C -40°C
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards EMC Emission EMC Immunity Protection degree Vibration sinuosoidal Shock Connection terminals	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load • EN50178 III • IEC60664-1 2 • CLASS I - LASS I - LENGURGE (Certified E356563) • EN60950 (reference) • EN50178 (reference) - EN55012 (CISPR11) Class A - EN55012 (CISPR22) Class A - EN55012 (CISPR22) Class A - EN61000-4-2 Level 3 - EN61000-4-3 Level 3 - EN61000-4-3 Level 3 - EN61000-4-4 Level 3 - EN61000-4-5 Level 3 - EN61000-4-1 Level 2 - EN61000-4-1 Level 2 - EN61000-4-1 Level 2 - EN60529 IP20 - IEC 60068-2-6 (5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z) - IEC 60068-2-7 (30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total) - 2.5mm², screw type pluggable (2412AWG)
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards EMC Emission EMC Immunity Protection degree Vibration sinuosoidal Shock Connection terminals Case material	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load • EN50178 III • IEC60664-1 2 • CLASS I - CLASS I - LUSO8 (certified E356563) • EN60950 (reference) • EN50178 (reference) • EN50104 (Class A • EN55022 (CISPR22) Class A • EN61000-3-2 Class A • EN61000-4-2 Level 3 • EN61000-4-3 Level 3 • EN61000-4-4 Level 3 • EN61000-4-5 Level 3 • EN61000-4-1 Level 2 • EN61000-4-1 Level 2 • EN61000-4-1 Level 2 • EN6068-2-6 (5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z) • IEC 60068-2-7 (30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total) 2.5mm², screw type pluggable (2412AWG) Aluminum
Operating temperature ² Derating Storage temperature Humidity Life time expectation Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards EMC Emission EMC Immunity Protection degree Vibration sinuosoidal Shock Connection terminals Case material Weight	- 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C -40°C+ 80°C 595% r.H. non condensing 65′496h (7.4 years) at 25°C ambient full load ENS0178 III IEC60664-1 2 CLASS I 4.2kVdc 2.2kVdc 0.75kVdc EN60950 (reference) EN50178 (reference) EN50178 (reference) EN50178 (reference) EN500178 (researce) EN6000-4-2 (class A EN61000-4-2 (class A EN61000-4-2 (class A EN61000-4-2 (class A EN61000-4-4 (class A EN61000-4-5 (class A EN61
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- 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.

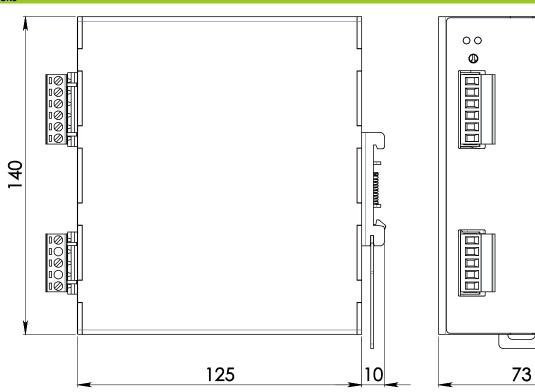
- Data may change without prior notice in order to improve the product.

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²⁾ Start-up type tested: - 40°C, possible at nominal voltage with load deration.



DIMENSIONS



CONNECTION



Input Connection:

Single phase:

- L = Line
- N = Neutral
- I = Earth ground

- L = + Positive DC
- N = Negative DC
- I = Earth ground

Output Connection:

- + = Positive DC
- -= Negative DC

Signalling:

DC OK: dry contact

- NO
- COM

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