











■ Main Features

-) High efficiency and compact size
- J Active PFC
- J 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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TECHNICAL DATA

Adj. output voltage 24Vdc Adj. output voltage range 2328Vdc 200A	TECHNICAL DATA		
Table voltage 24/00	Model type	NPSM480-24	
Add. Output voltage range		24Vdc	
Continuations corrent	-		
Decrease during			
Lead regulation			
Spine Spin	Short circuit peak current	50A	
New York New York	Load regulation	≤ 1%	
Protections	Ripple & Noise ¹	≤ 50mVpp	
Dispute convening protection Output overvoltage 338/dc	Hold up time	≥ 50ms	
De OK - green LED	Protections	Thermal protection	
De OK - green LED	Output overvoltage protection	≥ 33Vdc	
Input AC rate voltage	Status Signals	 OVERLOAD - red LED 	
Nominal: 2002-40794c Ul. certified) Range: 187, 2-69174 Ul. certified) Range: 187, 2-69174 Ul. certified) Certified toward Certifi	Parallel connection	Possible for redundancy (with external C	ORing module)
Range: 187Z64Varc	INPUT DATA		
Injust AC rated current	Frequency	Range: 187264Vac 4763Hz; 400Hz	ified)
Vin = 200Vac		250375Vdc	
Vin = 240Vac 2.5A Vin = 250Vdc 1.5A Vin = 375Vdc 1.5A Power factor correction Active / 7 o.9 Insush peak current \$ 40A Touch (leakage) current \$ 0.5mA Internal protection fuse None, external fuse must be provided Recommended external protection Fuse 6.34 for MCB 6A Curve or 4A D curve Recommended external protection It is strongly recommended to provide external surge arresters (SPD) according to local regulations. GENERAL DATA \$ 91% Efficiency \$ 91% Dissipated power 4 8W Operating * 48W Operating temperature ² * * 0.40°C.* + 70°C Derating * * 0.40°C.* + 70°C Storage temperature * * 0.40°C.* + 80°C Humidity * 5 .95% r.H. non condensing Life time expectation * 65 496 f.7 4 years) at 25°C ambient full load Overvoitage category * 1 .810078 * 1 .810078 Protection Class * 1 .810078 * 1 .810078 Input / ground isolation * 0.75kVdc Input / ground isolation <		_	
Imput DC rated current Vin = 25V0vc 2.2A 1.5A 1.			
Vin = 25VOVG 2.2A Vin = 37VOVG 1.5A Power factor correction Active / > 0.9 Inrush peak current 4.0A Touch (leakage) current 5.5mA Internal protection fuse None, external fuse must be provided Recommended external protection Fuse 6.3AT or MCB 6A C curve or 4A D curve Efficiency 91% Dissipated power 4.48W Operating temperature ² **** *** *** *** *** *** *** *** *** *		2.5A	
Vin = 375Volc 1.5A Power factor correction Active /> > 0.9 Innush peak current ≤ 40A Touch (leakage) current ≤ 0.5mA Internal protection fuse None, external fuse must be provided Recommended external protection Fuse 6.3A or MCB 6A C curve or 4A D curve Recommended external protection Fuse 6.3A or MCB 6A C curve or 4A D curve or 4A D curve or 4D curve or		2.24	
Power factor correction Active / > 0.9 Inrush peak current ≤ 40A Counch (leakange) current ≤ 0.5 mA Internal protection fuse None, external fuse must be provided Recommended external protection Fuse 6.3AT or MCB 6A C curve or 4A D curve fit is strongly recommended to provide external surge strents (SPD) according to local regulations. GENERAL DATA Fuse 6.3AT or MCB 6A C curve or 4AD curve fit is strongly recommended to provide external surge strents (SPD) according to local regulations. GENERAL DATA Fuse 6.3AT or MCB 6A C curve or 4AD curve fit is strongly recommended to provide external surges restricts (SPD) according to local regulations. GENERAL DATA Fuse 6.3AT or MCB 6A C curve or 4AD curve fit is strongly recommended to provide external surges restricts (SPD) according to local regulations. GENERAL DATA Fuse fit is strongly recommended to provide external surges restricts (SPD) according to local regulations. GENERAL DATA 1			
Section Sect			
Touch (leakage) current S 0.5mA			
None, external fuse must be provided Fuse 6.3AT or MCB 6A C curve or 4A D curve It is strongly recommended to provide external sursets (SPD) according to local regulations. Second	·		
Fuse 6.3AT or MCB 6A C curve or 4A D curve			
It is strongly recommended to provide external surge arresters (SPD) according to local regulations.	Internal protection fuse		
Efficiency 91% Dissipated power 48W Operating temperature² 40°C + 70°C Uberating -10W/°C over 45°C Storage temperature 40°C + 80°C Humidity 595% r.H. non condensing Life time expectation 65'496h (7.4 years) at 25°C ambient full load MTBF MIL-HDBK-217F > 500'000h at 25°C ambient full load Overvoltage category ENS50178 III Pollution degree 1 EC60664-1 2 Input / output isolation 4.2kVdc Input / ground isolation 4.2kVdc Output / ground isolation 5 ULS08 (certified E356563) Safety Standards 1 ENS50178 (reference) EMC Emission 1 ENS5011 (CISPR11) Class A EMC Emission 1 ENS5012 (CISPR22) Class A EMC Emission 1 ENS1000-4-2 Level 3 EMC Immunity 1 ENS1000-4-2 Level 3 EMC Immunity 1 ENS1000-4-1 Level 3 EMC Immunity 1 ENS1000-4-2 Level 3 EMC Imm			
Spisspate power	Recommended external protection		
Comparating temperature	-		
Derating temperature	GENERAL DATA	It is strongly recommended to provide external surge arresters	
Storage temperature	GENERAL DATA Efficiency	It is strongly recommended to provide external surge arresters > 91%	
Humidity	GENERAL DATA Efficiency Dissipated power	It is strongly recommended to provide external surge arresters > 91% < 48W - 40°C+ 70°C	
Humidity	GENERAL DATA Efficiency Dissipated power Operating temperature ²	It is strongly recommended to provide external surge arresters > 91% < 48W - 40°C+ 70°C UL certified up to 45°C	
Effective expectation	GENERAL DATA Efficiency Dissipated power Operating temperature ² Derating	It is strongly recommended to provide external surge arresters > 91% < 48W - 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C	
MITHE MILHDBK-217F S00'000h at 25°C ambient full load	GENERAL DATA Efficiency Dissipated power Operating temperature ² Derating Storage temperature	It is strongly recommended to provide external surge arresters > 91% < 48W - 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C - 40°C+ 80°C	(SPD) according to local regulations.
Overvoltage category Pollution degree • EN50178 III III Protection Class • CLASS I Input / output isolation • CLASS I Input / ground isolation • UL508 (certified E356563) Safety Standards • EN60950 (reference) (reference) EMC Emission • EN55011 (CISPR11) Class A Class A EMC Emission • EN61000-4-2 Class A Level 3 EMC Immunity • EN61000-4-2 Level 3 Level 3 EMC Immunity • EN61000-4-3 Level 3 Level 3 • EN61000-4-4 Level 2 Level 3 • EN61000-4-1 Level 2 Level 3 • EN61000-4-1 Level 2 Level 3 • EN61000-4-2 Level 3 Level 3 • EN61000-4-1 Level 2 Level 3 • EN61000-4-2 Level 3 Level 3 • EN61000-4-2 Level 3 Level 3 • EN61000-4-5 Level 3 Level 3 • EN61000-4-5 Level 3 Level 3 • EN61000-4-5 Level 3 Level 3 • EN61000-4-1 Level 2 Level 3 • EN60000-4-11 Level 2 Level 3	GENERAL DATA Efficiency Dissipated power Operating temperature ² Derating Storage temperature Humidity	It is strongly recommended to provide external surge arresters > 91% < 48W - 40°C+ 70°C UL certified up to 45°C -10W/°C over 45°C - 40°C+ 80°C 595% r.H. non condensing	(SPD) according to local regulations.
Pollution degree	GENERAL DATA Efficiency Dissipated power Operating temperature ² Derating Storage temperature Humidity Life time expectation	It is strongly recommended to provide external surge arresters > 91% < 48W - 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	(SPD) according to local regulations. g
Protection Class	GENERAL DATA Efficiency Dissipated power Operating temperature ² Derating Storage temperature Humidity Life time expectation MTBF	It is strongly recommended to provide external surge arresters > 91% < 48W - 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 MIL-HDBK-217F > 500′000h at 25°C ambient fu	(SPD) according to local regulations. g
A.2kVdc Input / ground isolation	GENERAL DATA Efficiency Dissipated power Operating temperature ² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category	Strongly recommended to provide external surge arresters	(SPD) according to local regulations. g
Diput / ground isolation	GENERAL DATA Efficiency Dissipated power Operating temperature ² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree	Strongly recommended to provide external surge arresters	(SPD) according to local regulations. g
Output / ground isolation 0.75kVdc Safety Standards • UL508 (certified E356563) • EN60950 (reference) • EN50178 (reference) EMC Emission • EN55011 (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 • EN61000-4-11 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)	GENERAL DATA Efficiency Dissipated power Operating temperature ² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class	Strongly recommended to provide external surge arresters	(SPD) according to local regulations. g
UL508	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation	Strongly recommended to provide external surge arresters	(SPD) according to local regulations. g
EN60950 (reference)	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation	Strongly recommended to provide external surge arresters	(SPD) according to local regulations. g
EN50178	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation	It is strongly recommended to provide external surge arresters > 91% < 48W - 40°C+ 70°C	(SPD) according to local regulations. g
ENS5011 (CISPR11) Class A	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation	It is strongly recommended to provide external surge arresters > 91% < 48W - 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 EN50178 III EC60664-1 2 EC45S I 4.2kVdc 2.2kVdc 0.75kVdc UL508 (certified E356563)	(SPD) according to local regulations. g
EMC Emission	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation	It is strongly recommended to provide external surge arresters > 91% < 48W - 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 MIL-HDBK-217F > 500′000h at 25°C ambient full EN50178 III IEC60664-1 2 CLASS I 4.2kVdc 2.2kVdc UL508 (certified E356563) EN60950 (reference)	(SPD) according to local regulations. g
EN61000-3-2 Class A EMC Immunity • EN61000-4-2 Level 3 EMC Immunity • EN61000-4-3 Level 3 • EN61000-4-4 Level 3 • EN61000-4-5 Level 3 • 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)	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation	Strongly recommended to provide external surge arresters	(SPD) according to local regulations. g
EN61000-4-3 Level 3	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards	It is strongly recommended to provide external surge arresters	(SPD) according to local regulations. g
EN61000-4-3 Level 3	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards	Strongly recommended to provide external surge arresters	(SPD) according to local regulations. g
• EN61000-4-5 Level 3 • 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)	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards	Strongly recommended to provide external surge arresters	(SPD) according to local regulations. g
■ 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)	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards	Strongly recommended to provide external surge arresters	(SPD) according to local regulations. g
Protection degree ■ EN60529 IP20 Vibration sinuosoidal ■ IEC 60068-2-6 (5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards EMC Emission	Strongly recommended to provide external surge arresters	(SPD) according to local regulations. g
Vibration sinuosoidal ■ IEC 60068-2-6 (5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards EMC Emission	It is strongly recommended to provide external surge arresters > 91% < 48W -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 EN50178 III	(SPD) according to local regulations. g
	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards EMC Emission EMC Immunity	It is strongly recommended to provide external surge arresters > 91% < 48W -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 EN50178 III	(SPD) according to local regulations. g
Shock IEC 60068-2-27 (30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total)	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF Overvoltage category Pollution degree Protection Class Input / output isolation Input / ground isolation Output / ground isolation Safety Standards EMC Emission EMC Immunity Protection degree	Strongly recommended to provide external surge arresters	g If full load
	GENERAL DATA Efficiency Dissipated power Operating temperature² Derating Storage temperature Humidity Life time expectation MTBF 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	Strongly recommended to provide external surge arresters	(SPD) according to local regulations. g g t full load ill load

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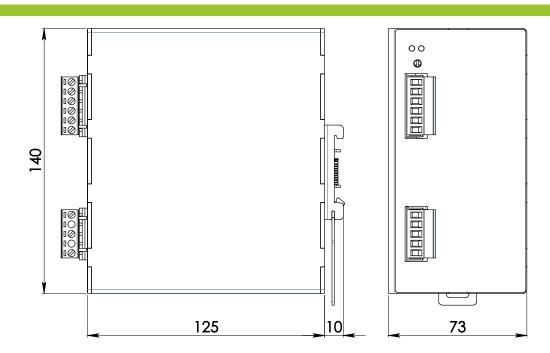


Connection terminals	2.5mm², screw type pluggable (2412AWG)	
Case material	Aluminum	
Weight	1.0kg	
Size (W x H x D)	73.0 x 140.0 x 125.0mm	

- 1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.
- 2) Start-up type tested: 40°C, possible at nominal voltage with load deration.

- 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
- 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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