



■ Main Features

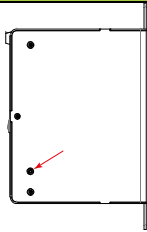
- High efficiency and compact size
- Output voltage programmable at 24Vdc or 36Vdc
- 250mm width aluminum enclosure
- Active PFC
- Hiccup mode current limitation
- Temperature controlled fan cooling (high reliability)
- Remote Enable signal
- Enhanced input transient overvoltage immunity

TECHNICAL DATA

Model type	NPSM1500-36	
OUTPUT DATA		
Rated voltage	24Vdc or 36Vdc user programmable	
Continuous current	40A	
Overload limit	> 41A, hiccup mode current limitation	
Load regulation	≤ 1.5%	
Ripple & Noise ¹	≤ 500mVpp (@36Vdc out)	
Hold up time	≥ 25ms	
Protections	<ul style="list-style-type: none"> ▪ Overload, short circuit ▪ Thermal protection ▪ Input undervoltage lockout ▪ Output overvoltage 	
Output overvoltage protection	Active, >32VDC for 24V mode / >48VDC for 36V mode	
Status Signals	<ul style="list-style-type: none"> ▪ DC OK - green LED (on when output voltage is regulated) ▪ AC OK - green LED (on when input voltage is present) ▪ OUTPUT DISABLED - yellow LED (on when the input voltage is present and the output is disable trough the enable signal) ▪ FAULT - red LED (on when the unit is in thermal protection or when an internal / external fault occurs) ▪ 24V/36V selection - 2 yellow LEDs (on when the unit is set at 24V/36V respectively) ▪ 24V/36V selection switch - internal switch protected by cover on the enclosure ▪ RJ-45 connector for remote status signalling. 	
Parallel connection	<ul style="list-style-type: none"> ▪ Possible for power or redundancy (with external ORING module) 	
INPUT DATA		
Input AC rated voltage	Nominal: 120...240Vac	
Frequency	Range: 90...264Vac 47...63Hz	
Input DC rated voltage	110...345Vdc	
Input AC rated current	15A	
Vin = 120Vac	7A	
Vin = 240Vac		
Input DC rated current	15A	
Vin = 110Vdc	5A	
Vin = 345Vdc		
Power factor correction	Active, PF > 0.9	
Inrush peak current	≤ 45A	
Overvoltage protection	<ul style="list-style-type: none"> ▪ Differential overvoltage (L to N) with 275Vac varistor (VDR) ▪ Common mode overvoltage (L/N to PE) with 1.6kV Gas Discharge Tube (GDT), surge immunity up to 6kV guaranteed 	
Touch (leakage) current	≤ 3mA	
Internal protection fuse	Fuse 20AT	
Recommended external protection	Fuse 20AT or MCB 16A C curve It is strongly recommended to provide external surge arresters (SPD) according to local regulations.	
GENERAL DATA		
Efficiency	> 91.5% @240Vac input	
Dissipated power	< 133W	
Operating temperature	- 40°C...+ 70°C, with derating above 50°C	
Derating	0.75A/°C above 50°C	
Storage temperature	- 40°C...+ 80°C	
Humidity	5...95% r.H. non condensing	
Life time expectation	174'631h (19.94 years) at 25°C ambient full load	
MTBF	<ul style="list-style-type: none"> ▪ MIL-HDBK-217F >600'000h at 25°C full load 	
Overvoltage category	<ul style="list-style-type: none"> ▪ EN50178 III 	
Pollution degree	<ul style="list-style-type: none"> ▪ IEC60664-1 2 	
Protection Class	<ul style="list-style-type: none"> ▪ CLASS I 	
Input / output isolation ²	4.2kVdc	
Input / ground isolation ²	2.2kVdc	
Output / ground isolation ²	0.75kVdc	
Safety Standards	<ul style="list-style-type: none"> ▪ UL508 (reference) ▪ EN60950 (reference) ▪ EN50178 (reference) 	
EMC Emission	<ul style="list-style-type: none"> ▪ FCC Part15 Class A ▪ EN55011 (CISPR11) Class A ▪ EN61000-3-2 Class A 	
EMC Immunity	<ul style="list-style-type: none"> ▪ EN61000-4-2 Level 3 ▪ EN61000-4-3 Level 3 ▪ EN61000-4-4 Level 4 ▪ EN61000-4-5 Level 4 tested up to 6.6kV peak ▪ EN61000-4-11 Level 2 	
Protection degree	<ul style="list-style-type: none"> ▪ EN60529 IP20 	
Vibration sinusoidal	<ul style="list-style-type: none"> ▪ IEC 60068-2-6 (5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z) 	
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 (30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total) 	

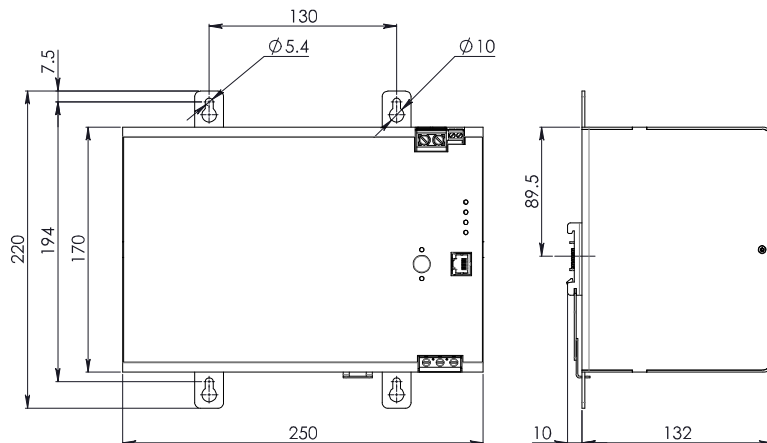
Connection terminals	Input: 1.5...6mm ² , screw type header (16...10AWG) Output: 6...16mm ² , screw type header (10...6AWG) Enable: 2.5mm ² , screw type header (24...12AWG)
Case material	Aluminum
Weight	3.5kg
Size (W x H x D)	250 x 170 x 132mm
<p>1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 1µF MKP parallel capacitor. 2) The unit is provided with a Gas Discharge Tube (GDT) connected between AC input and PE; to perform dielectric strength test (HiPot test) the GDT must be disconnected, see relevant section for details</p> <p>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.</p>	

GDT DISCONNECTION


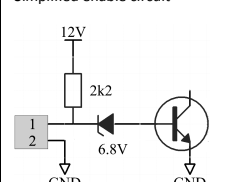
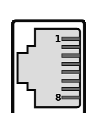


Prior to perform the dielectric strength test (HiPot test) the screw indicated in the image has to be removed. This screw connects the GDT to the chassis PE. The dielectric strength test will fail if the screw is not removed. Put the screw back in place after the test to guarantee the enhanced surge immunity protection.

DIMENSIONS



CONNECTION

 <p>NPSM1500-36</p> <p>INPUT: 120-240VAC, 15-17A, 50-60Hz OUTPUT: 24/36VDC, 40A</p>	<p>Input Connection:</p> <p>Single phase:</p> <ul style="list-style-type: none"> ■ L = Line ■ N = Neutral ■ I = Earth ground <p>DC:</p> <ul style="list-style-type: none"> ■ L = + Positive DC ■ N = - Negative DC ■ I = Earth ground 	<p>Output Connection:</p> <ul style="list-style-type: none"> ■ + = Positive DC ■ - = Negative DC <p>Enable Connection:</p> <ul style="list-style-type: none"> ■ Connect the 2 terminals together to enable the output <p>Note: Enable connector is not insulated from the DC output</p> <p>Enable open voltage: 12V Enable current: 6mA</p> <p>Simplified enable circuit</p>  <p>The unit is enabled when the transistor is open (enable voltage < 7.5V).</p>	<p>Remote Panel Connection RJ-45:</p>  <ul style="list-style-type: none"> ■ PIN1: GND ■ PIN2: AC-OK LED ■ PIN3: 36V OK LED ■ PIN4: 24V OK LED ■ PIN5: FAULT LED ■ PIN6: RESERVED (do not use) ■ PIN7: RESERVED (do not use) ■ PIN8: N.C. (Not Connected) <p>LEDs maximum voltage: 4V LEDs nominal current: 3mA</p> <p>AC-OK LED: on when the input voltage is present. 36V LED: on when the input output voltage is regulated at 36V. 24V LED: on when the input output voltage is regulated at 24V. AC-OK LED: on when the unit is in thermal protection or when an internal fault occurs.</p>
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