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
- Wall mount fixing possible

TECHNICAL DATA

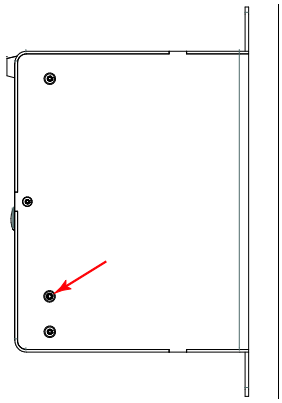
Model type	NPSM1500-36
OUTPUT DATA	
Rated voltage	24Vdc or 36Vdc user programmable
Continuous current	40A
Overload limit	> 41A, hiccup mode current limitation
Load regulation	≤ 1.5%
Ripple & Noise[1]	≤ 500mVpp (@36Vdc out)
Hold up time	≥ 25ms
Protections	▪ Overload, short circuit ▪ Thermal protection ▪ Input undervoltage lockout ▪ Output overvoltage
Output overvoltage protection	Active, >32Vdc for 24V mode / >48Vdc for 36V mode
Status Signals	▪ **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	▪ Possible for power or redundancy (with external ORing module)
INPUT DATA	
Input AC rated voltage Frequency	Nominal: 120…240Vac Range: 90…264Vac 47…63Hz
Input DC rated voltage	110...345Vdc
Input AC rated current Vin = 120Vac Vin = 240Vac	 15A 7A
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 15A 5A
Power factor correction	Active, PF > 0.9
Inrush peak current[2] / I^2t	≤ 25A / 0.09A^2s
Overvoltage protection	▪ 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%
Dissipated power	< 133W
Operating temperature[3]	- 40°C…+ 70°C
Derating	0.75A/°C over 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	▪ MIL-HDBK-217F > 600'000h at 25°C full load
Overvoltage category Pollution degree	▪ EN50178 III ▪ IEC60664-1 2
Protection Class	▪ CLASS I
Input / output isolation[4]	4.2kVdc
Input / ground isolation[4]	2.2kVdc
Output / ground isolation[4]	0.75kVdc
Safety Standards	▪ UL508 (reference) ▪ EN60950 (reference) ▪ EN50178 (reference)
EMC Emission	▪ FCC Part15 Class A ▪ EN55011 (CISPR11) Class A ▪ EN61000-3-2 Class A
EMC Immunity	▪ 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	▪ 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 Input	1.5…6mm^2, screw type header (16...10AWG)
Connection terminals Output	6…16mm^2, screw type header (10...6AWG)
Connection terminals Enable	2.5mm^2, screw type header (24...12AWG)

Case material	Aluminum
Weight	3.85kg
Size (W x H x D)	250 x 170 x 132mm

1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 1µF MKP parallel capacitor.
2) Peak current measured after 0.2ms from main connection; 240Vac/50Hz; Ambient temperature at 25°C; Cold Start.
3) Start-up type tested: - 40°C, possible at nominal voltage with load deration.
4) The unit is provided with a Gas Discharge Tube (GDT) connected between AC input and PE; to perform dielectric strength test (Hi-Pot test) the GDT must be disconnected, see relevant section for details.

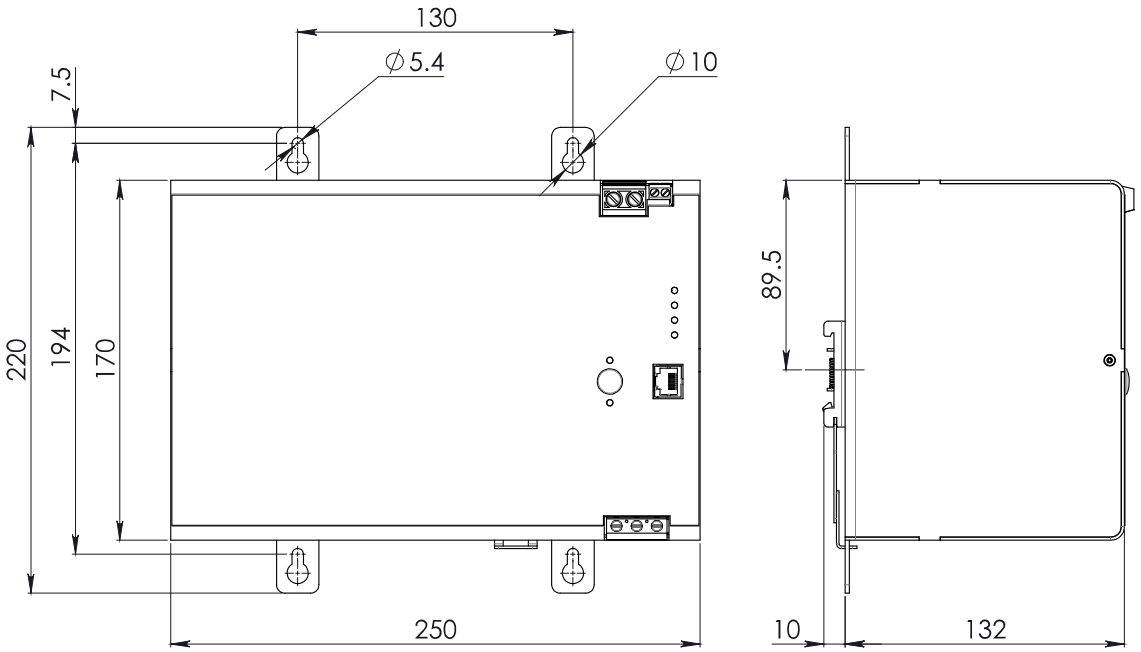
Notes:
- Technical parameters are typical, measured in laboratory environment at 25°C and 240Vac / 50Hz, at nominal values, after minimum 5 minutes of operation.
- Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details.
- Data may change without prior notice in order to improve the product.

GDT DISCONNECTION

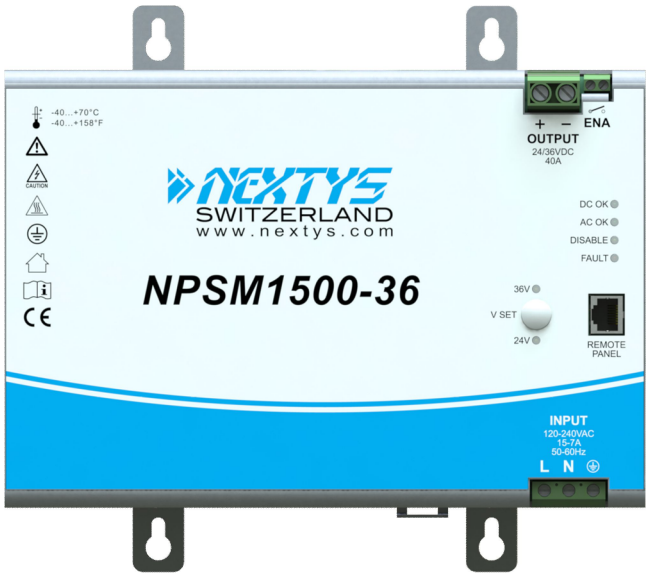


Prior to perform the dielectric strength test (Hi-Pot test) the screw indicated in the image has to be removed. This screw connects the GDT to the chassis PE.
The dielectric strength test will fail if the screw is not removed. Put the screw back in place after the test to guarantee the enhanced surge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

DIMENSIONS



CONNECTION



Input Connection:

Single phase:
- L = Line
- N = Neutral
- ⏚ = Earth ground

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

Output Connection:

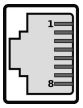
- + = Positive DC
- - = Negative DC

Enable Connection:
- Connect the 2 terminals together to enable the output

Note: Enable connector is not insulated from the DC output

Enable open voltage: 12V
Enable current: 6mA

Remote Panel Connection RJ-45:



- 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)

LEDs maximum voltage: 4V
LEDs nominal current: 3mA

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.
FAULT LED:	on when the unit is in thermal protection or when an internal fault occurs.