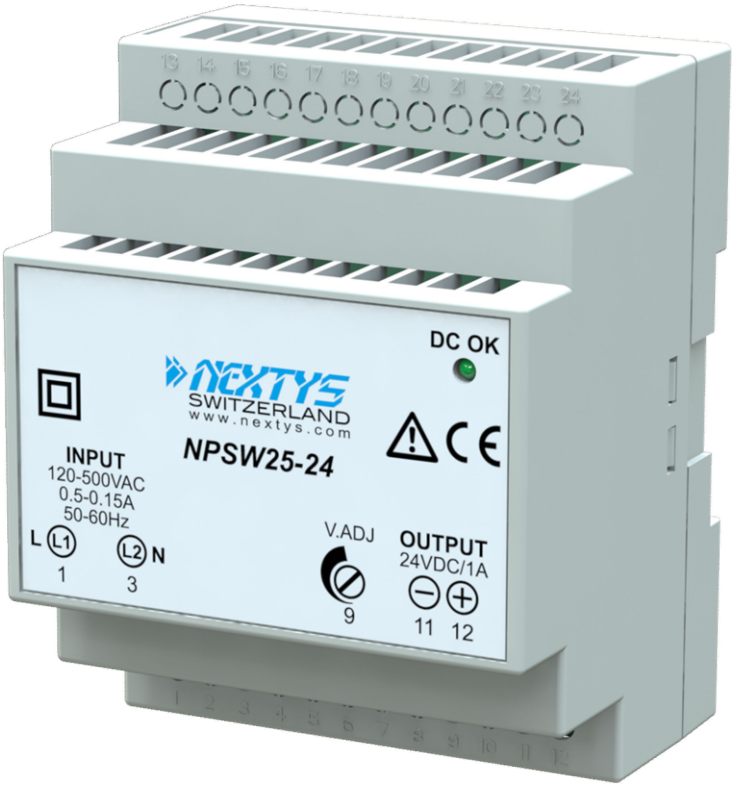


■ *Main Features*

- High efficiency and extremely compact size
- 1 or 2 phases AC (90…550Vac) or DC (150…725Vdc)
- Plastic enclosure, circuit breaker shape
- Class II insulation (simplified wiring)
- Overload 130%
- Up to 70°C operating temperature with derating
- Ideal for applications with harsh main conditions
- Compliant to renewable energy system and high voltage DC BUS

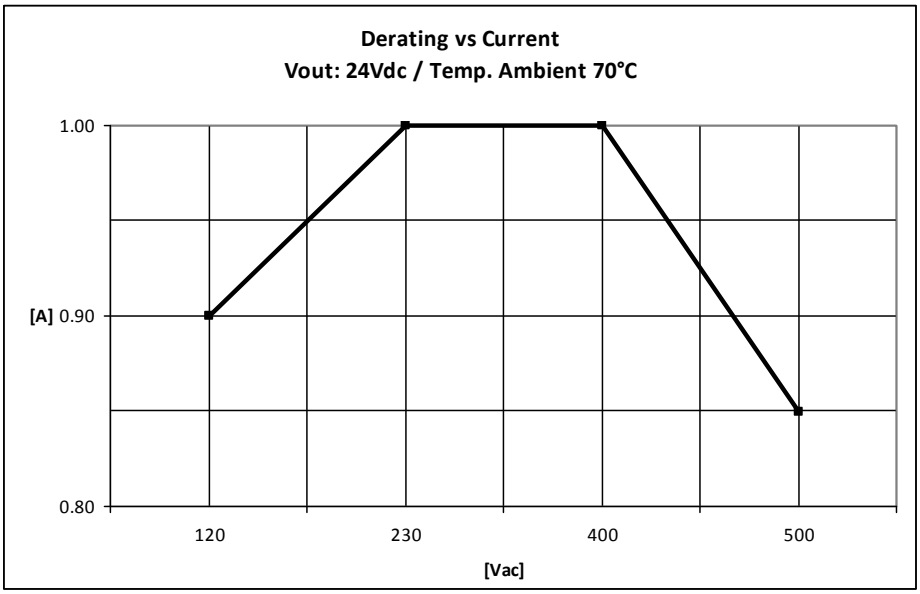
TECHNICAL DATA

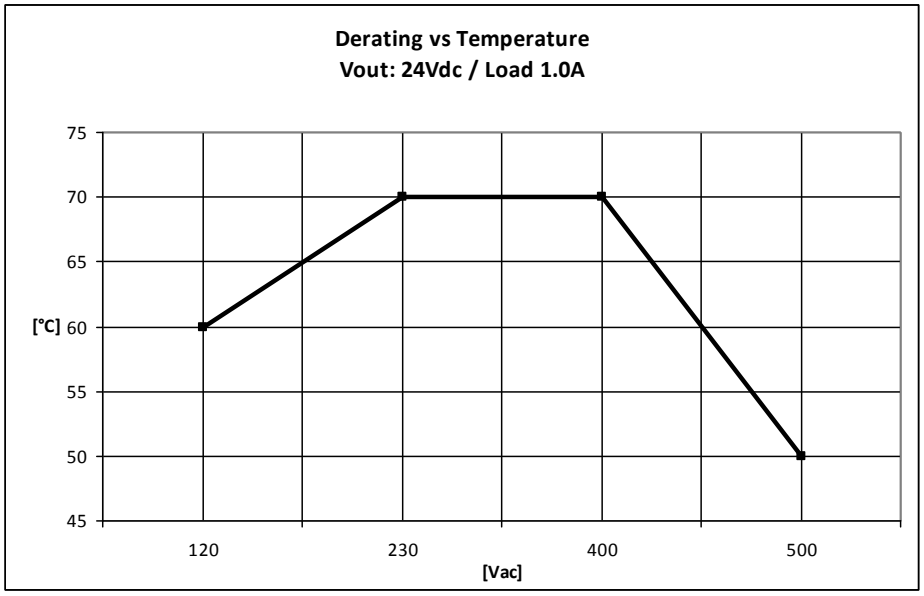
Model type	NPSW25-24	
OUTPUT DATA		
Rated voltage	24Vdc	
Adj. output voltage range	23…28Vdc	
Continuous current Vin = 120Vac 1Ph Vin = 240Vac 1Ph Vin = 400Vac 2Ph Vin = 500Vac 2Ph	 1.35A 1.50A 1.35A 1.30A	
Overload limit	4.5A	
Short circuit peak current	30A	
Load regulation	≤ 0.5%	
Ripple & Noise[1]	≤ 50mVpp	
Hold up time Vin = 240Vac 1Ph Vin = 500Vac 2Ph	 ≥ 35ms ≥ 180ms	
Protections	▪ Overload/short circuit: Hiccup mode ▪ Thermal protection ▪ Output overvoltage	
Output overvoltage protection	≥ 33Vdc	
Status Signals	▪ **DC OK** - green LED	
Parallel connection	Possible for redundancy (with external ORing module)	
INPUT DATA		
Input AC rated voltage Frequency	Nominal: 1/2 phases, 120…500Vac Range: 90…550Vac 47…63Hz	
Input DC rated voltage	150...725Vdc	
Input AC rated current Vin = 120Vac 1Ph Vin = 500Vac 2Ph	 0.50A 0.15A	
Input DC rated current Vin = 150Vdc Vin = 725Vdc	 0.30A < 0.10A	
Inrush peak current	≤ 20A	
Touch (leakage) current	≤ 0.2mA	
Internal protection fuse	None, external fuse must be provided	
Recommended external protection	MCB 2A C curve It is strongly recommended to provide external surge arresters (SPD) according to local regulations.	
GENERAL DATA		
Efficiency	> 83%	
Dissipated power	< 4.9W	
Operating temperature[2]	- 40°C…+ 70°C	
Derating	See charts on Fig.1	
Storage temperature	- 40°C...+ 80°C	
Humidity	5…95% r.H. non condensing	
Life time expectation	179'477h (20.4 years) at 25°C ambient full load	
Overvoltage category Pollution degree	▪ EN50178 ▪ IEC60664-1	III 2
Protection Class	▪ Class	II
Input / output isolation	4.2kVdc	
Safety Standards	▪ UL508 ▪ EN60950 ▪ EN50178	(reference) (reference) (reference)
EMC Emission	▪ EN55011 (CISPR11) ▪ EN55022 (CISPR22)	Class B Class B
EMC Immunity	▪ EN61000-4-2 ▪ EN61000-4-3 ▪ EN61000-4-4 ▪ EN61000-4-5 ▪ EN61000-4-11	Level 3 Level 3 Level 3 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 header (24...12AWG)	
Case material	ABS, Flame retardant UL94 V-0	
Weight	0.17kg	
Size (W x H x D)	72.0 x 90.0 x 61.5mm	

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.

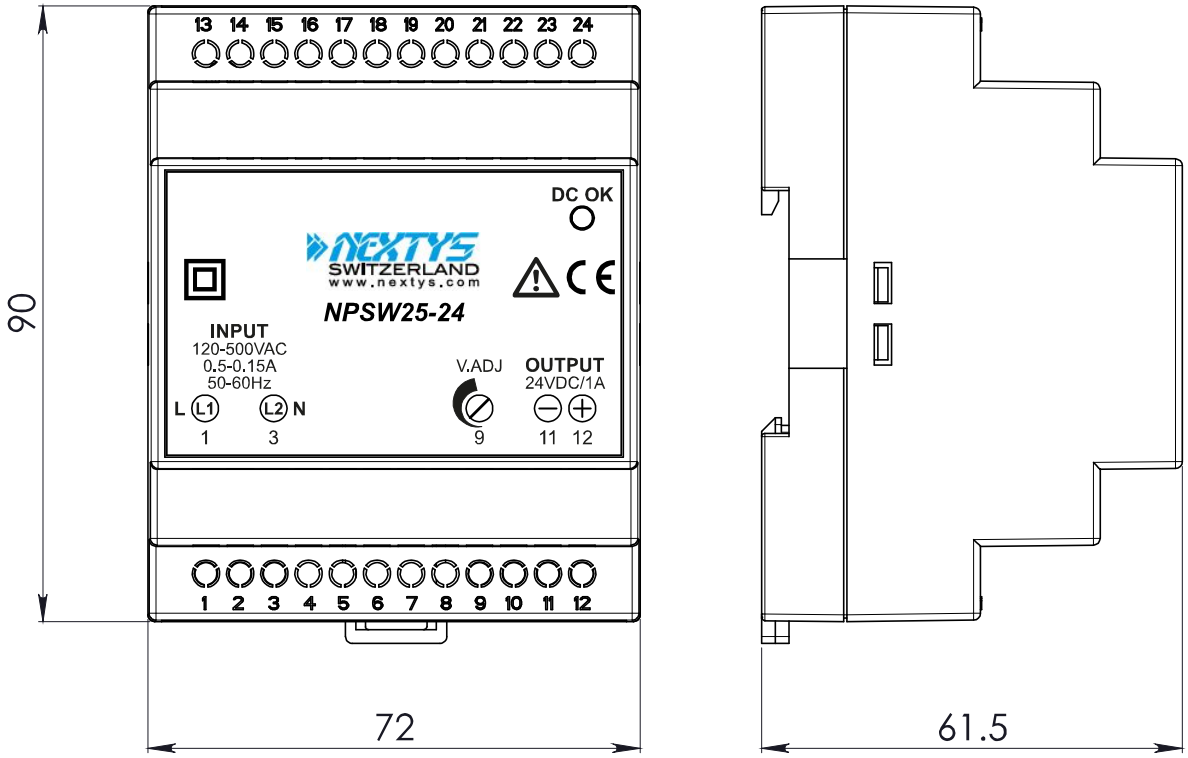
Notes:
- Technical parameters are typical, measured in laboratory environment at 25°C and 240Vac / 50Hz, at nominal values, after minimum 5 minutes of operation.
- Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory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

Fig.1

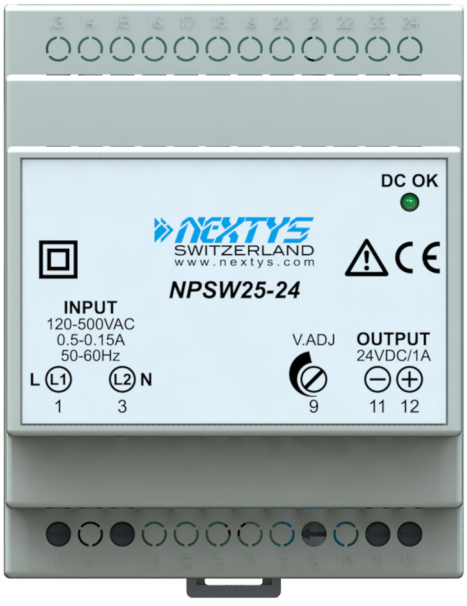

Derating vs Current
Vout: 24Vdc / Temp. Ambient 70°C
1.00
[A] 0.90
0.80
120
230
400
500
[Vac]


Derating vs Temperature
Vout: 24Vdc / Load 1.0A
75
70
65
[°C] 60
55
50
45
120
230
400
500
[Vac]

DIMENSIONS



CONNECTION



Input Connection:

Single phase:
- L = Line (1)
- N = Neutral (3)

2 phases:
- L1 = phase 1 (1)
- L2 = phase 2 (3)

DC:
- L (L1) = + Positive DC (1)
- N (L2) = - Negative DC (3)

Output Connection:

- + = Positive DC (12)
- - = Negative DC (11)