

■ **Main Features**

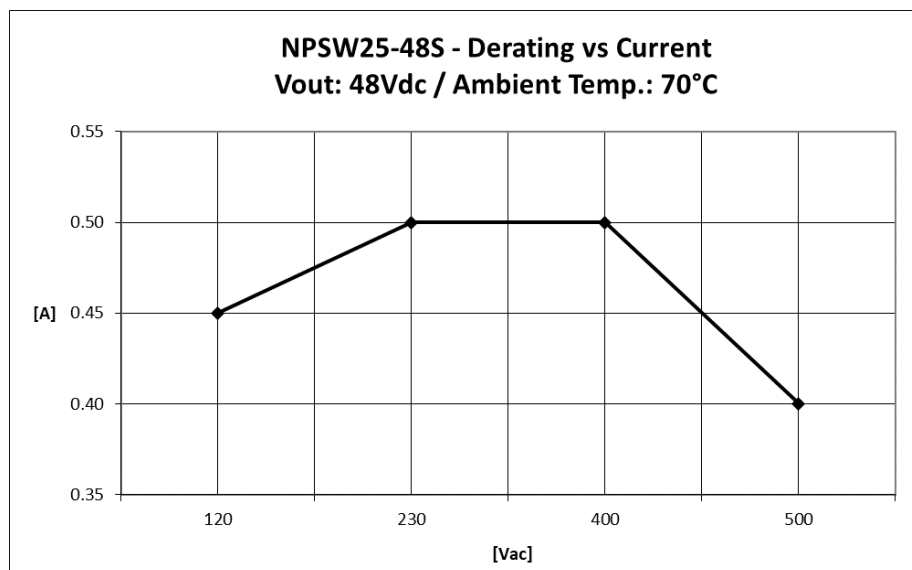
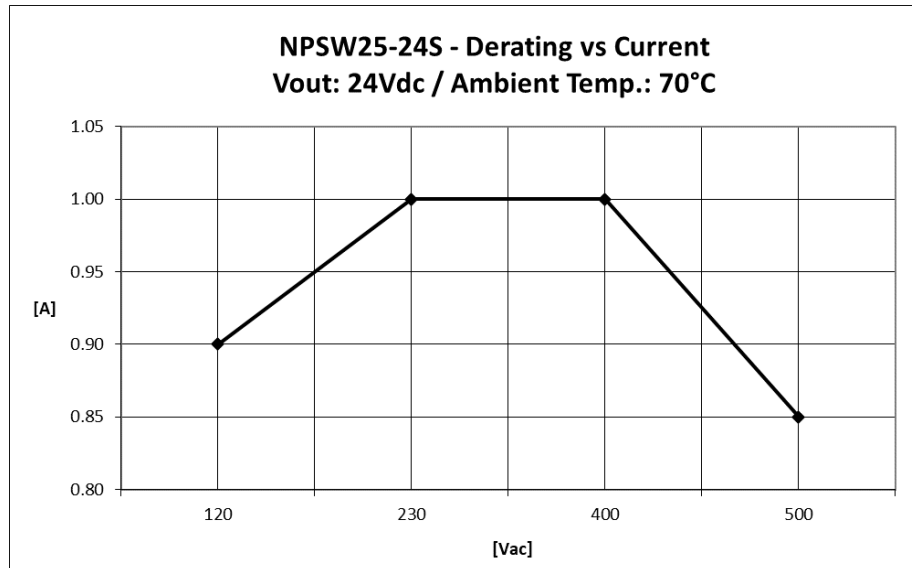
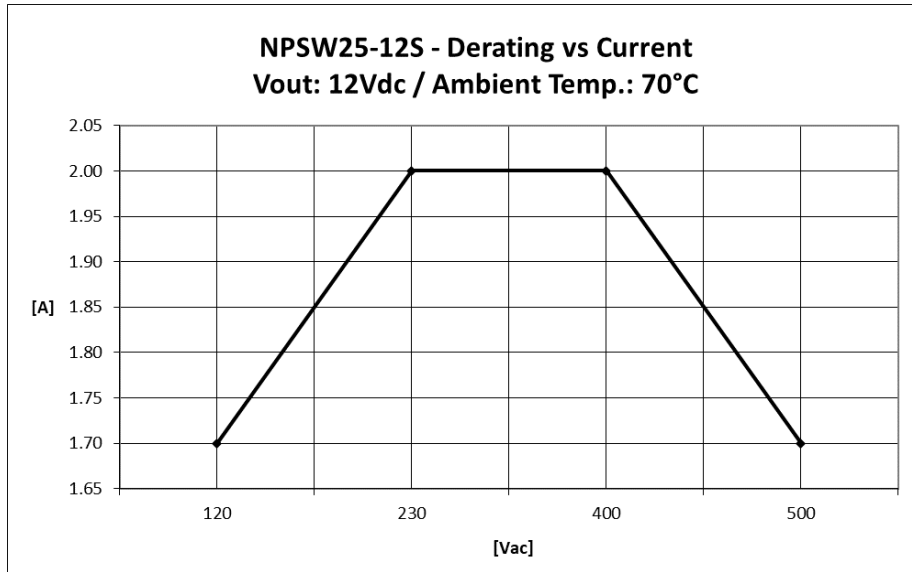
- High efficiency and extremely compact size
- 1 or 2 phases AC (90...550Vac) or DC (150...725Vdc)
- Plastic enclosure, circuit breaker shape
- Class II insulation (simplified wiring)
- Overload 130%
- Up to 70°C operating temperature with derating
- Ideal for applications with harsh main conditions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

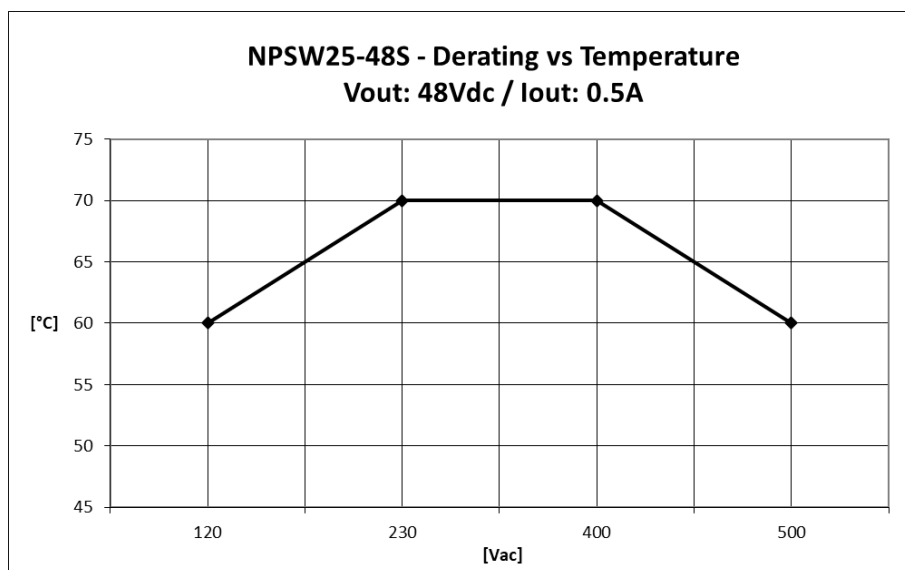
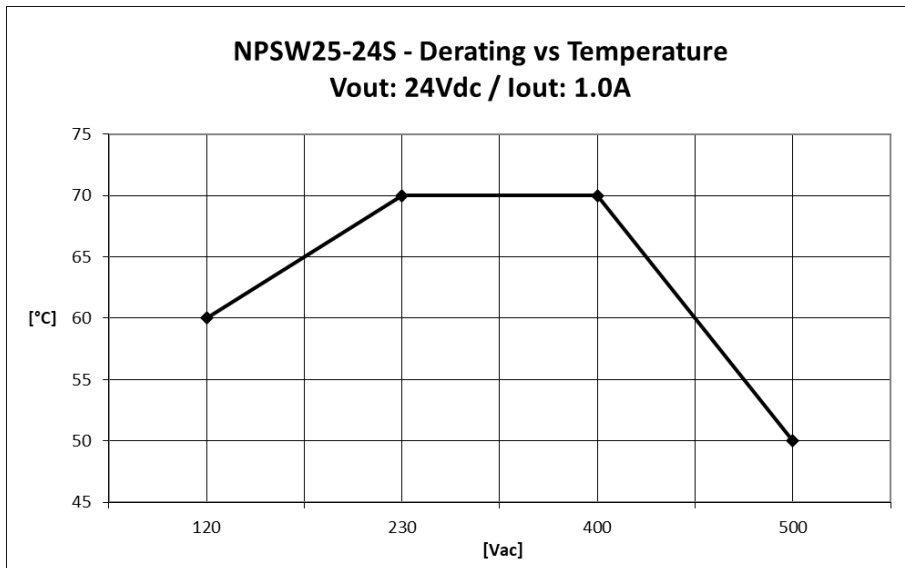
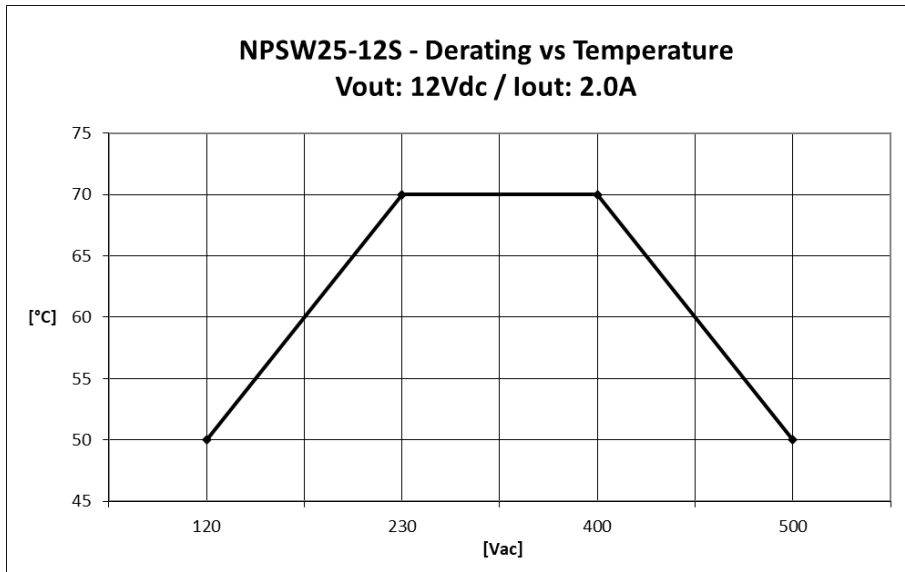
TECHNICAL DATA

Model type	NPSW25-12S	NPSW25-24S	NPSW25-48S
OUTPUT DATA			
Rated voltage	12Vdc	24Vdc	48Vdc
Adj. output voltage range	12...15Vdc	23...28Vdc	45...55Vdc
Continuous current	2.0...1.6A	1.0A	0.5A
Overload limit ³			
Vin = 120Vac	2.65A	1.45A	0.75A
Vin = 240Vac	2.90A	1.70A	0.90A
Vin = 400Vac	2.90A	1.70A	0.90A
Vin = 500Vac	2.90A	1.70A	0.90A
Short circuit peak current	6.5A	4.0A	2.5A
Load regulation		≤ 0.5%	
Ripple & Noise ¹		≤ 50mVpp	
Hold up time			
Vin = 240Vac		≥ 35ms	
Vin = 500Vac		≥ 180ms	
Protections	<ul style="list-style-type: none"> ▪ Overload/short circuit: Hiccup mode ▪ Thermal protection ▪ Output overvoltage 		
Output overvoltage protection	≥ 18Vdc	≥ 33Vdc	≥ 68Vdc
Status Signals	▪ DC OK - green LED		
Parallel connection	Possible for redundancy (with external ORing module)		
INPUT DATA			
Input AC rated voltage	Nominal: 1/2 phases, 120...500Vac		
Frequency	Range: 90...550Vac 47...63Hz		
Input DC rated voltage	150...725Vdc		
Input AC rated current			
Vin = 120Vac 1Ph	0.50A		
Vin = 500Vac 2Ph	0.15A		
Input DC rated current			
Vin = 150Vdc	0.30A		
Vin = 725Vdc	< 0.10A		
Inrush peak current ² / I ² t	≤ 17A / 0.10A ² s		
Touch (leakage) current	≤ 0.2mA		
Internal protection fuse	None, external fuse must be provided		
Recommended external protection ⁵	MCB 2A C curve / Cartridge fuse Class CC 2AT 600Vac It is strongly recommended to provide external surge arresters (SPD) according to local regulations.		
GENERAL DATA			
Efficiency ³	> 81.5%	> 84.5%	> 84%
Dissipated power	< 5.5W	< 4.5W	< 4.6W
Operating temperature ⁴	- 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		
MTBF	<ul style="list-style-type: none"> ▪ MIL-HDBK-217F > 600'000h at 25°C ambient full load 		
Overvoltage category	▪ EN50178	III	
Pollution degree	▪ IEC60664-1	2	
Protection Class	▪ Class	II	
Input / output isolation	4.2kVdc		
Safety Standards ⁵	<ul style="list-style-type: none"> ▪ UL508 (certified E356563) ▪ EN60950 (reference) ▪ EN50178 (reference) 		
EMC Emission	<ul style="list-style-type: none"> ▪ EN55011 (CISPR11) Class B ▪ EN55022 (CISPR22) Class B 		
EMC Immunity	<ul style="list-style-type: none"> ▪ EN61000-4-2 Level 3 ▪ EN61000-4-3 Level 3 ▪ EN61000-4-4 Level 3 ▪ EN61000-4-5 Level 4 ▪ EN61000-4-11 Level 2 		
Protection degree	▪ EN60529	IP20	
Vibration sinusoidal	▪ 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	2.5mm ² , screw type header (24...12AWG)		

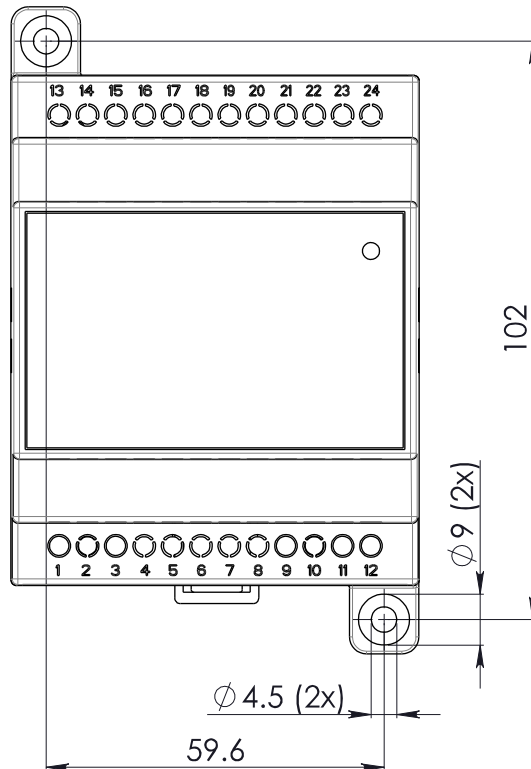
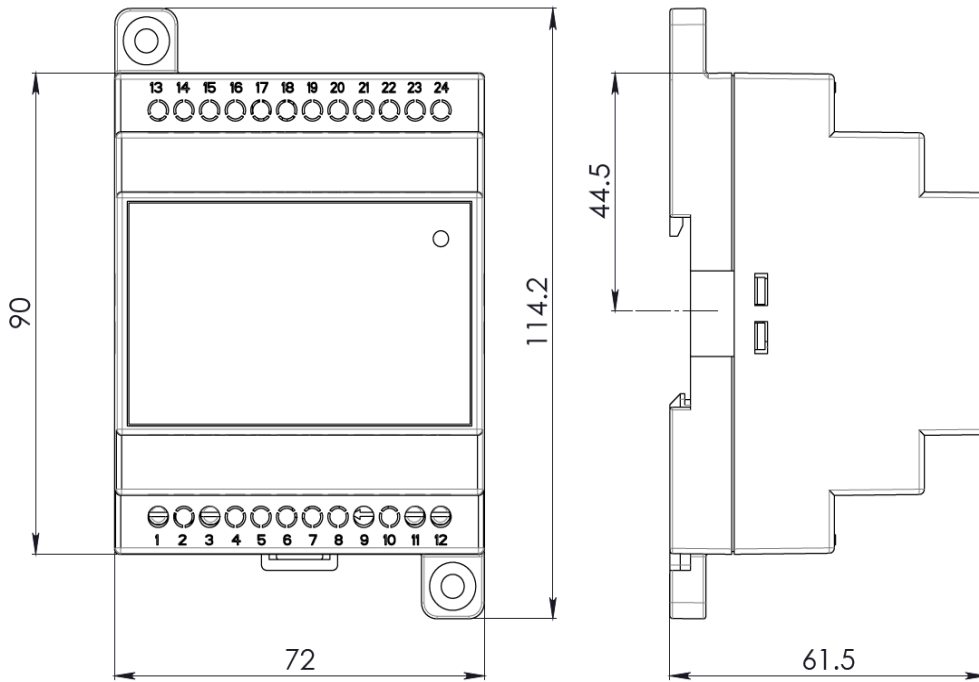
Case material	Plastic, Flame retardant UL94 V-0
Weight	0.17kg
Size (W x H x D)	72.0 x 114.2 x 61.5mm
<p>1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor. 2) Peak current measured after 0.2ms from main connection; 400Vac/50Hz; Ambient temperature at 25°C; Cold Start. 3) On NPSW25-12S measures are performed with output set to 12Vdc. 4) Start-up type tested: - 40°C, possible at nominal voltage with load deration. 5) In order to be UL compliant use Listed Cartridge nonrenewable (JDDZ) fuse Class CC 2AT 600Vac.</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>	

Fig.1

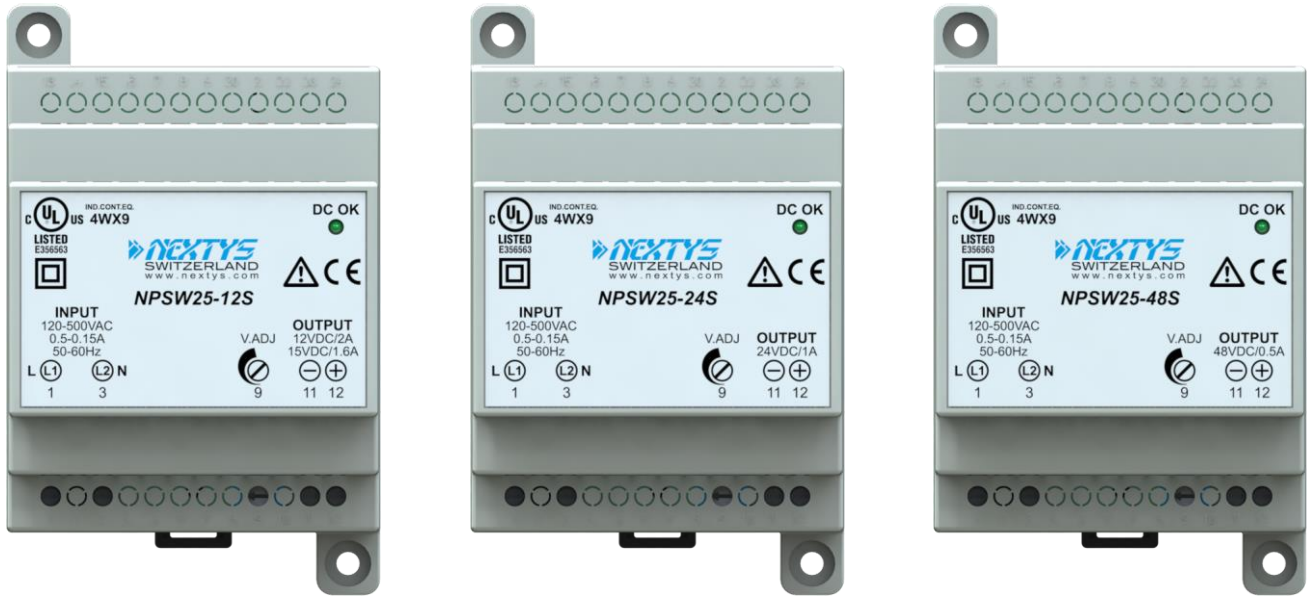




DIMENSIONS



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)