



### ■ Main Features

- High efficiency and compact size
- Only 73mm width aluminum enclosure
- 1, 2 or 3 phases input AC 187...550Vac
- Wide DC input range 250...725Vdc
- Active PFC
- Overload 140%
- Excellent field reliability record
- Usable for broad range of industrial, telecom and renewable energy applications
- Codes ended with **(H)**: include enhanced transient overvoltage protection (> 6kV)

**TECHNICAL DATA**

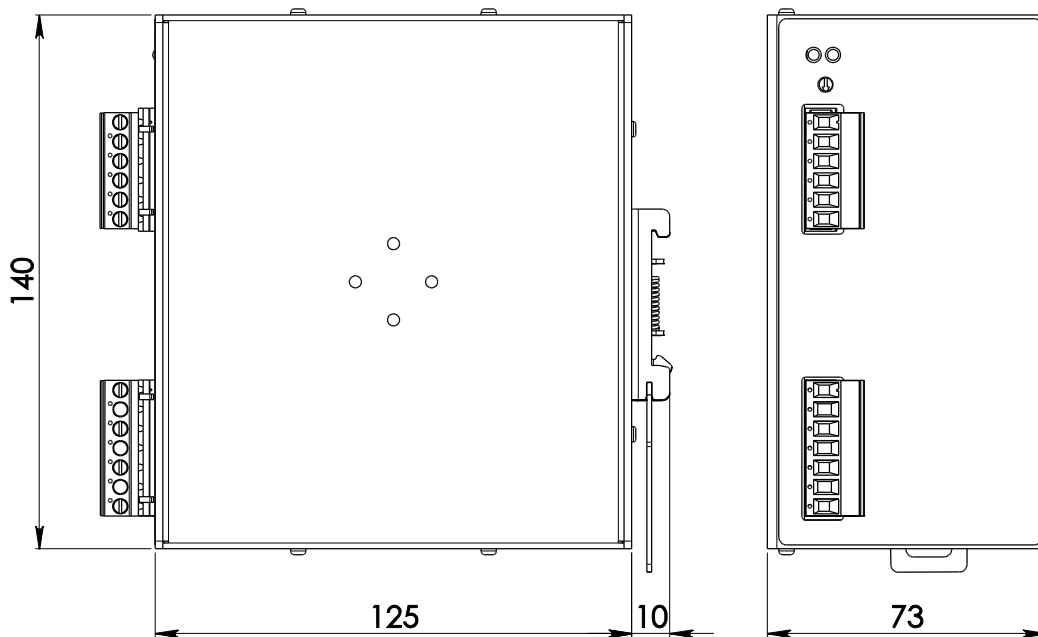
Model type <sup>1</sup>	NPSW480-24 (H)	NPSW480-48 (H)	NPSW480-72 (H)
<b>OUTPUT DATA</b>			
Rated voltage	24Vdc	48Vdc	72Vdc
Adj. output voltage range	23...28Vdc	45...55Vdc	72...85Vdc
Continuous current	20A	10A	6.0A
Overload limit	28A	14A	9.0A
Short circuit peak current	50A	25A	12A
Load regulation	≤ 1%		
Ripple & Noise <sup>2</sup>	≤ 50mVpp	≤ 100mVpp	
Hold up time	≥ 50ms		
Protections	<ul style="list-style-type: none"> <li>▪ Overload, short circuit: Hiccup mode</li> <li>▪ Thermal protection</li> <li>▪ Output overvoltage</li> </ul>		
Output overvoltage protection	≥ 33Vdc	≥ 68Vdc	≥ 100Vdc
Status Signals	<ul style="list-style-type: none"> <li>▪ <b>DC OK</b> - green LED</li> <li>▪ <b>OVERLOAD</b> - red LED</li> <li>▪ <b>DC OK</b> - dry contact (NO, 24Vdc / 1A)</li> </ul>		
Parallel connection	Possible for redundancy (with external ORing module)		
<b>INPUT DATA</b>			
Input AC rated voltage	Nominal: 1/2/3 phases, 200...500Vac (UL certified)		
Frequency	Range: 187...550Vac 47...63Hz with 1/2/3 phases; 400Hz with 1/2 phases input only		
Input DC rated voltage	250...725Vdc		
Input AC rated current			
Vin = 200Vac 1/2 Ph	2.9A		
Vin = 500Vac 1/2 Ph	1.3A		
Vin = 200Vac 3Ph	1.8A		
Vin = 500Vac 3Ph	0.8A		
Input DC rated current			
Vin = 250Vdc	2.1A		
Vin = 725Vdc	0.8A		
Power factor correction	Active / > 0.9		
Inrush peak current <sup>3</sup> / I <sup>2</sup> t	≤ 55A / 2.16A <sup>2</sup> s		
Touch (leakage) current	≤ 0.6mA		
Internal protection fuse	None, external fuse must be provided		
Recommended external protection	Fuse 6.3AT or MCB 6A C or MCB 4A D curve It is strongly recommended to provide external surge arresters (SPD) according to local regulations.		
<b>GENERAL DATA</b>			
Efficiency	> 92%		> 91%
Dissipated power	< 42W		< 42.5W
Operating temperature <sup>4</sup>	- 40°C...+ 70°C UL certified up to 45°C		
Derating	- 10W/°C over 45°C		
Storage temperature	- 40°C...+ 80°C		
Humidity	5...95% r.H. non condensing		
Life time expectation	65'496h (7.4 years) at 25°C ambient full load		
MTBF	<ul style="list-style-type: none"> <li>▪ MIL-HDBK-217F</li> </ul>	> 500'000h at 25°C ambient full load	
Overvoltage category	<ul style="list-style-type: none"> <li>▪ EN50178</li> </ul>	III	
Pollution degree	<ul style="list-style-type: none"> <li>▪ IEC60664-1</li> </ul>	2	
Protection Class	<ul style="list-style-type: none"> <li>▪ CLASS</li> </ul>	I	
Input / output isolation	4.2kVdc		
Input / ground isolation	2.2kVdc		
Output / ground isolation	0.75kVdc		
Safety Standards <sup>5</sup>	<ul style="list-style-type: none"> <li>▪ UL508 (certified E356563)</li> <li>▪ EN60950 (reference)</li> <li>▪ EN50178 (reference)</li> </ul>		
EMC Emission	<ul style="list-style-type: none"> <li>▪ EN55011 (CISPR11) Class A</li> <li>▪ EN55022 (CISPR22) Class A</li> <li>▪ EN61000-3-2 Class A</li> </ul>		
EMC Immunity	<ul style="list-style-type: none"> <li>▪ EN61000-4-2 Level 3</li> <li>▪ EN61000-4-3 Level 3</li> <li>▪ EN61000-4-4 Level 4</li> <li>▪ EN61000-4-5 Level 3</li> <li>▪ EN61000-4-11 Level 2</li> </ul>		
Protection degree	<ul style="list-style-type: none"> <li>▪ EN60529</li> </ul>	IP20	
Vibration sinusoidal	<ul style="list-style-type: none"> <li>▪ IEC 60068-2-6</li> </ul>	(5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)	
Shock	<ul style="list-style-type: none"> <li>▪ IEC 60068-2-27</li> </ul>	(30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total)	

Connection terminals	2.5mm <sup>2</sup> , screw type pluggable (24...12AWG)
Case material	Aluminum
Weight	1.0kg
Size (W x H x D)	73.0 x 140.0 x 125.0mm

1) Codes ended with **(H)**: include enhanced transient overvoltage protection (> 6kV).  
 2) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.  
 3) Peak current measured after 0.2ms from main connection; 400Vac/50Hz; Ambient temperature at 25°C; Cold Start.  
 4) Start-up type tested: - 40°C, possible at nominal voltage with load deration.  
 5) Codes ended with **(H)** are not UL508 certified.

**Notes:**  
 - Technical parameters are typical, measured in laboratory environment at 25°C and 400Vac / 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
  - ⊕ = Earth ground

- 2 phases:
- L1 = phase 1
  - L2 = phase 2
  - ⊕ = Earth ground

- 3 phases:
- L1 = phase 1
  - L2 = phase 2
  - L3 = phase 3
  - ⊕ = Earth ground

- DC:
- L1(L) = + Positive DC
  - L2(N) = - Negative DC
  - L3 = do not connect
  - ⊕ = Earth ground

**Output Connection:**

- + = Positive DC
- - = Negative DC

- Signalling:
- DC OK: dry contact
  - NO
  - COM