



### ■ Main Features

- ] High efficiency and compact size
- ] Only 40mm width aluminum enclosure
- ] 1 or 2 phases input AC 187...550Vac
- ] Wide DC input range 250...725Vdc
- ] Overload 150%
- ] Excellent field reliability record
- ] Usable for broad range of industrial, telecom and renewable energy applications

**TECHNICAL DATA**

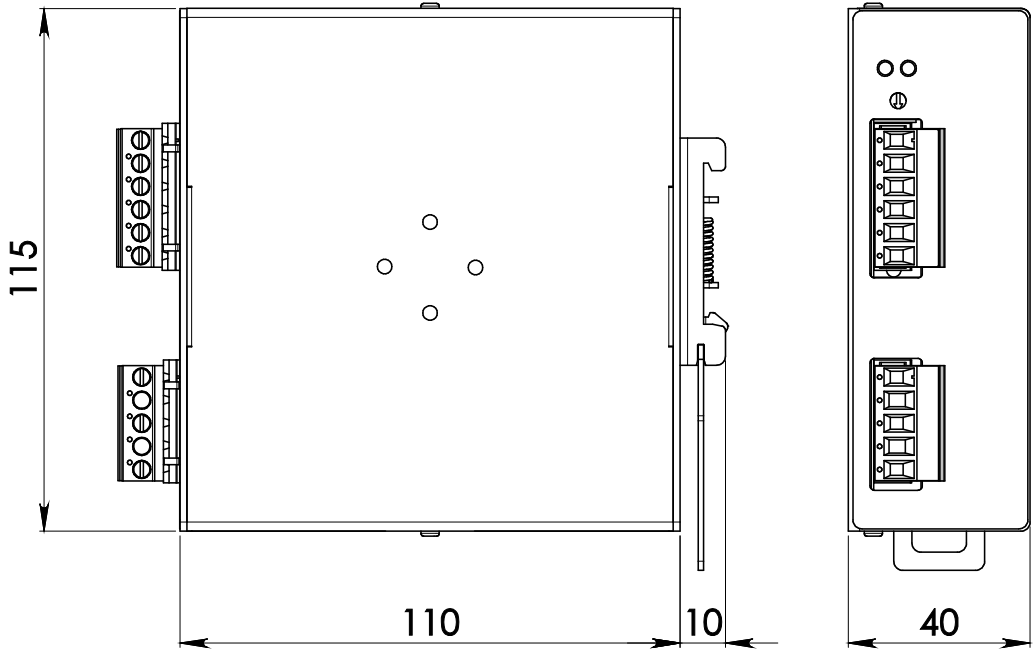
Model type	NPSW120-12	NPSW120-24	NPSW120-48P
<b>OUTPUT DATA</b>			
Rated voltage	12...15Vdc	24Vdc	48Vdc
Adj. output voltage range	12...15Vdc	23...28Vdc	45...55Vdc
Continuous current	8...7A	5.0A	2.5A
Overload limit (30s)	10A	7.5A	3.75A
Short circuit peak current	20A	14A	
Load regulation	≤ 1%		
Ripple & Noise <sup>1</sup>	≤ 110mVpp		
Hold up time Vin = 240Vac Vin = 400Vac	≥ 17ms ≥ 60ms		
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	≥ 18Vdc	≥ 33Vdc	≥ 68Vdc
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	<ul style="list-style-type: none"> <li>▪ Possible for redundancy (with external ORing module)</li> <li>▪ P (models) - include internal ORing circuit</li> </ul>		
<b>INPUT DATA</b>			
Input AC rated voltage Frequency	Nominal: 1/2 phases, 200...500Vac (UL certified) Range: 187...550Vac 47...63Hz		
Input DC rated voltage	250...725Vdc (300...500Vdc UL certified)		
Input AC rated current Vin = 200Vac Vin = 500Vac	1.4A 0.7A		
Input DC rated current Vin = 250Vdc Vin = 725Vdc	0.8A 0.3A		
Inrush peak current <sup>2</sup> / I <sup>2</sup> t	≤ 21A / 0.28A <sup>2</sup> s		
Touch (leakage) current	≤ 1mA		
Internal protection fuse	None, external fuse must be provided		
Recommended external protection	Fuse MCB 6A C or MCB 6A D curve It is strongly recommended to provide external surge arresters (SPD) according to local regulations.		
<b>GENERAL DATA</b>			
Efficiency	> 81% ... > 84%	> 88%	> 86%
Dissipated power	< 25W ... < 20W	< 17W	< 19.5W
Operating temperature <sup>3</sup>	- 40°C...+ 70°C UL certified up to 45°C		
Derating	No derating up to 60°C - 1.2W/°C over 60°C		
Storage temperature	- 40°C...+ 80°C		
Humidity	5...95% r.H. non condensing		
Life time expectation	84'914h (9.6 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	<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> </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 3</li> <li>▪ EN61000-4-5 Level 4</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	0.5kg
Size (W x H x D)	40.0 x 115.0 x 110.0mm

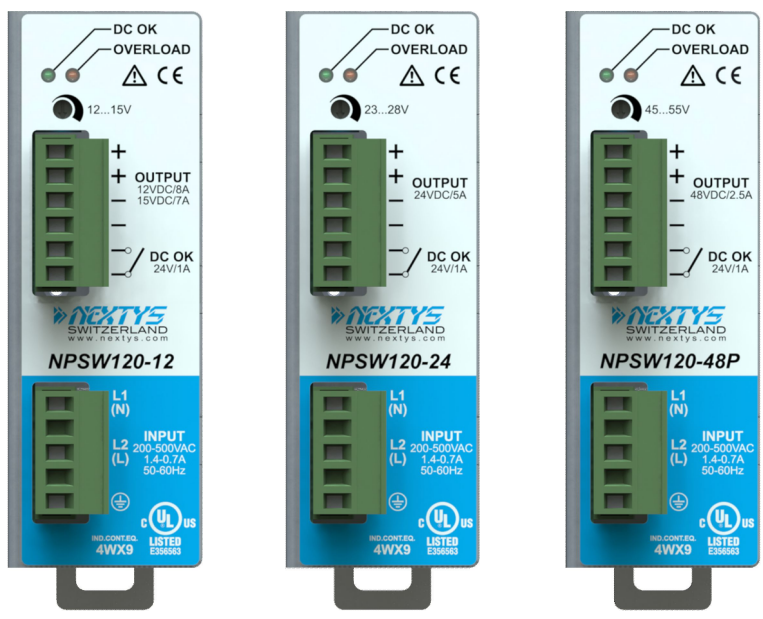
1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.  
 2) Peak current measured after 0.2ms from main connection; 400Vac/50Hz; Ambient temperature at 25°C; Cold Start.  
 3) Start-up type tested: - 40°C, possible at nominal voltage with load deration.

**Notes:**  
 - Technical parameters are typical, measured in laboratory environment at 25°C and 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
- DC:
- L2(L) = + Positive DC
  - L1(N) = - Negative DC
  - | = Earth ground

- Output Connection:**
- + = Positive DC
  - - = Negative DC
- Signalling:**
- DC OK: dry contact
  - NO
  - COM