



### ■ **Main Features**

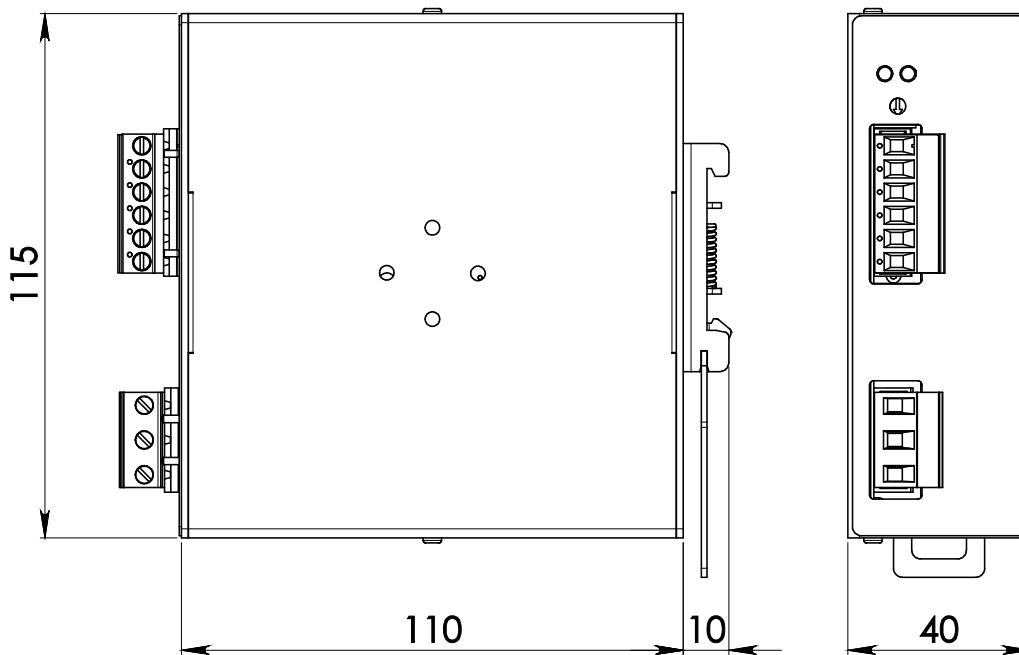
- ⌋ High efficiency and compact size
- ⌋ Only 40mm width aluminum enclosure
- ⌋ Overload 150%
- ⌋ Excellent field reliability record
- ⌋ Up to 60°C operating temperature with no derating

**TECHNICAL DATA**

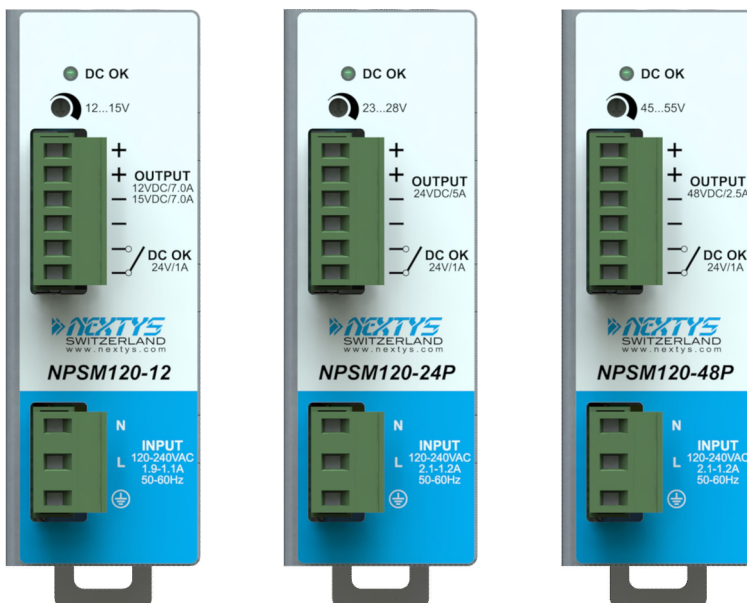
Model type	NPSM120-12	NPSM120-24	NPSM120-24P	NPSM120-48P
<b>OUTPUT DATA</b>				
Rated voltage	12Vdc	24Vdc		48Vdc
Adj. output voltage range	12...15Vdc	23...28Vdc		45...55Vdc
Continuous current	7.0A	5.0A		2.5A
Overload limit	11...9.5A	7.0A		3.7A
Short circuit peak current	30A			
Load regulation	≤ 2%	≤ 1%	≤ 2.5%	≤ 1.5%
Ripple & Noise <sup>1</sup>	≤ 120mVpp			
Hold up time Vin = 120Vac Vin = 240Vac	≥ 10ms ≥ 60ms	≥ 20ms ≥ 50ms	≥ 10ms ≥ 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	≥ 18Vdc	≥ 33Vdc		≥ 68Vdc
Status Signals	<ul style="list-style-type: none"> <li>▪ <b>DC OK</b> - green 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: 120...240Vac (UL certified) Range: 90...264Vac 47...63Hz			
Input DC rated voltage	110...345Vdc			
Input AC rated current Vin = 120Vac Vin = 240Vac	1.9A 1.1A	2.1A 1.2A		
Input DC rated current Vin = 110Vdc Vin = 345Vdc	1.3A 0.5A	1.4A 0.6A		
Inrush peak current <sup>2</sup> / I <sup>2</sup> t	≤ 30A / 0.72A <sup>2</sup> s			
Touch (leakage) current	≤ 0.45mA			
Internal protection fuse	Fuse 3.15AT (not user replaceable)			
Recommended external protection	Fuse 6AT or MCB 6A C curve It is strongly recommended to provide external surge arresters (SPD) according to local regulations.			
<b>GENERAL DATA</b>				
Efficiency	> 84%	> 87%	> 85%	> 86%
Dissipated power	< 20W	< 18W	< 21W	< 19W
Operating temperature <sup>3</sup>	- 40°C...+ 70°C UL certified up to 60°C			
Derating	- 2.4W/°C over 60°C			
Storage temperature	- 40°C...+ 80°C			
Humidity	5...95% r.H. non condensing			
Life time expectation	106'880h (12.2 years) at 25°C ambient full load			
MTBF	<ul style="list-style-type: none"> <li>▪ MIL-HDBK-217F &gt; 600'000h at 25°C ambient full load</li> </ul>			
Overvoltage category	<ul style="list-style-type: none"> <li>▪ EN50178 III</li> </ul>			
Pollution degree	<ul style="list-style-type: none"> <li>▪ IEC60664-1 2</li> </ul>			
Protection Class	<ul style="list-style-type: none"> <li>▪ CLASS I</li> </ul>			
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 3</li> <li>▪ EN61000-4-11 Level 2</li> </ul>			
Protection degree	<ul style="list-style-type: none"> <li>▪ EN60529 IP20</li> </ul>			
Vibration sinusoidal	<ul style="list-style-type: none"> <li>▪ IEC 60068-2-6 (5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)</li> </ul>			
Shock	<ul style="list-style-type: none"> <li>▪ IEC 60068-2-27 (30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total)</li> </ul>			

Connection terminals	2.5mm <sup>2</sup> , screw type pluggable (24...12AWG)
Case material	Aluminum
Weight	0.45kg
Size (W x H x D)	40.0 x 115.0 x 110.0mm
<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; 240Vac/50Hz; Ambient temperature at 25°C; Cold Start.                  3) Start-up type tested: - 40°C, possible at nominal voltage with load deration.</p> <p><b>Notes:</b>                  - 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>	

**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

Signalling:

- DC OK: dry contact
- NO
- COM