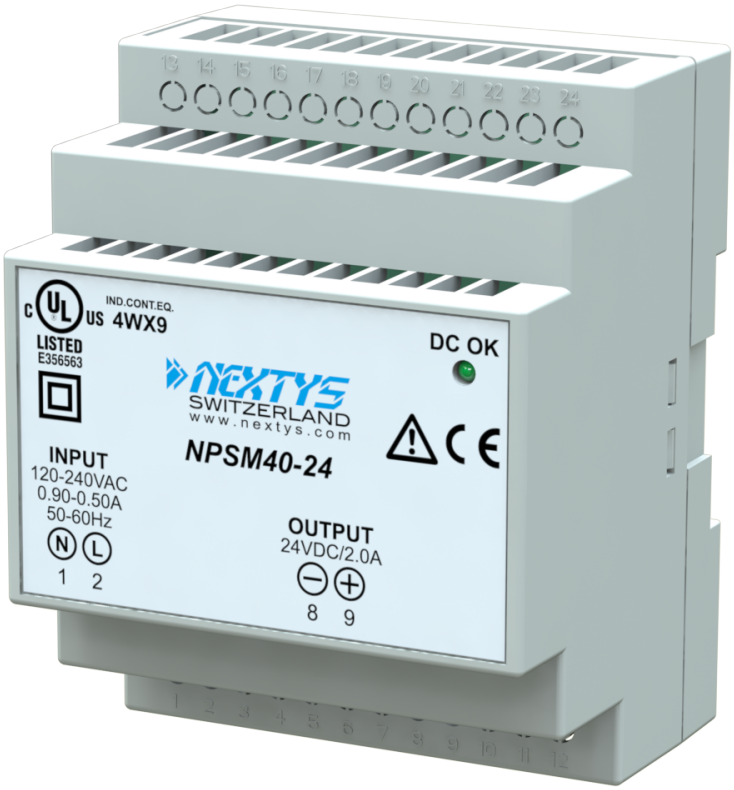


■ *Main Features*

- High efficiency and compact size
- Plastic enclosure, circuit breaker shape
- Simplified wiring (no PE connection)
- Overload 150%
- Includes (5…15V) and (2x 12…16V) models
- High operating temperature with no derating

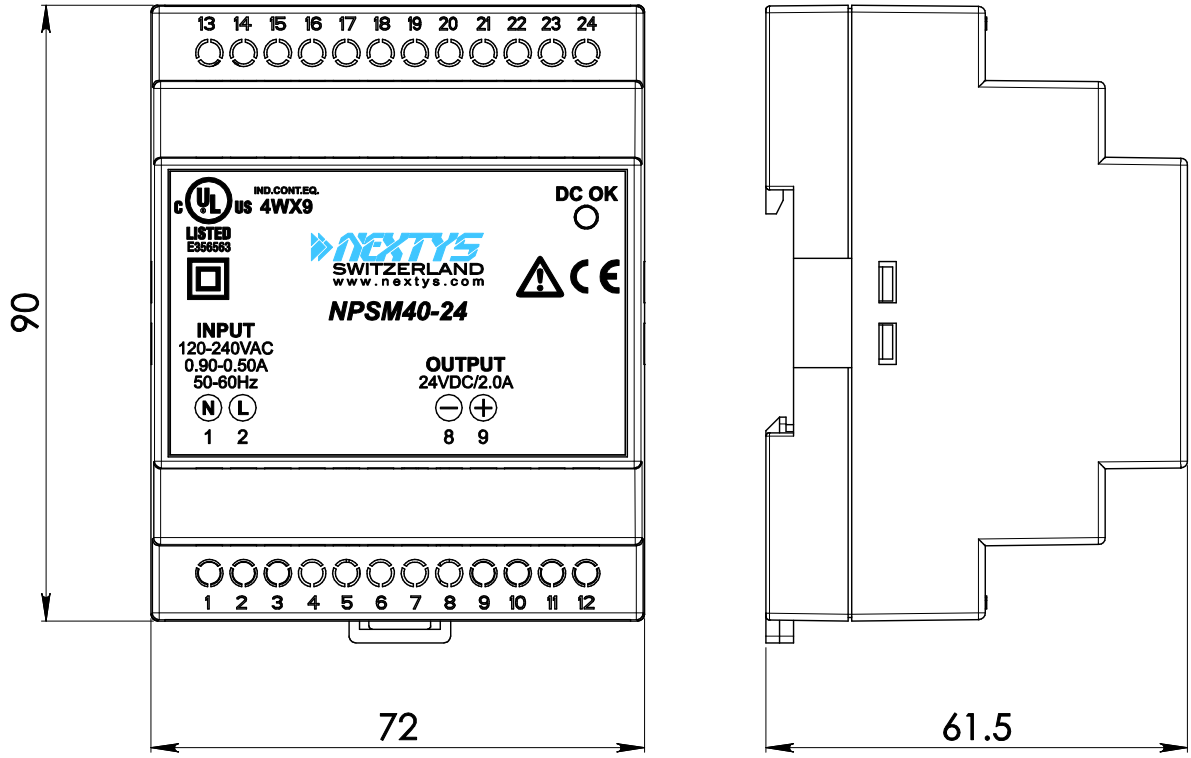
TECHNICAL DATA

Model type	NPSM40-515	NPSM40-12D	NPSM40-12	NPSM40-24
OUTPUT DATA				
Rated voltage	5…15Vdc	2x 12…16Vdc	12…15Vdc	24Vdc
Adj. output voltage range	5…15Vdc	2x 12…16Vdc	12…15Vdc	24Vdc Fixed
Continuous current	4.0…2.0A	1.0A	3.5…3.0A	2.0A
Overload limit	6.5A @ 5Vdc 4.0A @ 15Vdc	2.7…2.4A	6.5A @ 12Vdc 4.1A @ 15Vdc	3.5A
Short circuit peak current	10A	3.5A	8.5A	7.0A
Load regulation	≤ 1%			
Ripple & Noise[1]	≤ 100mVpp			
Hold up time Vin = 120Vac Vin = 240Vac	 ≥ 10ms ≥ 50ms			
Protections	▪ Overload/short circuit: Hiccup mode ▪ Thermal protection ▪ Output overvoltage			
Status Signals	▪ **DC OK** - green LED			
Parallel connection	Possible for redundancy (with external ORing module)			
INPUT DATA				
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	 0.70A 0.40A		 0.90A 0.50A	
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 0.50A 0.20A		 0.60A 0.30A	
Inrush peak current[2] / I^2t	≤ 50A / 1.15A^2s			
Touch (leakage) current	≤ 0.25mA			
Internal protection fuse	Fuse 2AT (not user replaceable)			
Recommended external protection	MCB 6A C curve It is strongly recommended to provide external surge arresters (SPD) according to local regulations.			
GENERAL DATA				
Efficiency[3]	> 80%	> 83%	> 86%	> 85%
Dissipated power	< 8W	< 7W	< 8W	< 9W
Operating temperature[4]	- 40°C...+ 70°C UL certified up to 50°C			
Derating	- 0.25W/°C over 50°C		- 0.35W/°C over 50°C	
Storage temperature	- 40°C...+ 80°C			
Humidity	5…95% r.H. non condensing			
Life time expectation	62'251h (7.1 years) at 25°C ambient full load			
MTBF	▪ MIL-HDBK-217F	> 500'000h 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 (certified E356563) ▪ IEC/EN61010-1 ▪ IEC/EN61010-2-201 ▪ IEN/EN60950			
EMC Emission	▪ EN55011 (CISPR11) Class A ▪ EN55022 (CISPR22) Class A			
EMC Immunity	▪ EN61000-4-2 Level 3 ▪ EN61000-4-3 Level 3 ▪ EN61000-4-4 Level 3 ▪ EN61000-4-5 Level 3 ▪ EN61000-4-11 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	2.5mm^2, screw type header (24...12AWG)			
Case material	Plastic, Flame retardant UL94 V-0			
Weight	0.19kg			
Size (W x H x D)	72.0 x 90.0 x 61.5mm			

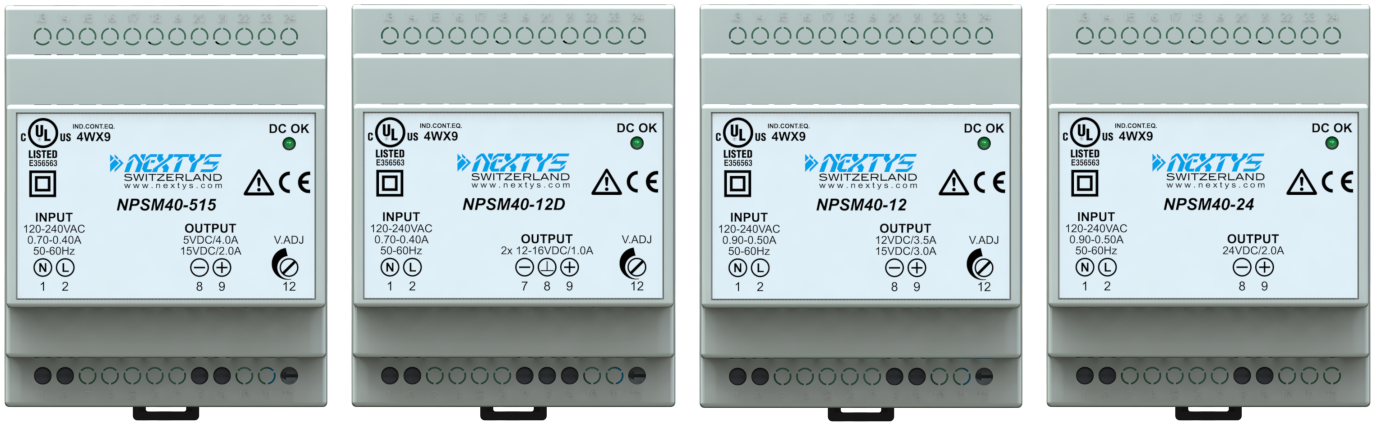
1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.
2) Peak current measured after 0.2ms from main connection; 240Vac/50Hz; Ambient temperature at 25°C; Cold Start.
3) For NPSM40-515 and NPSM40-12 measures are performed with output set to 15Vdc.
4) 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.

DIMENSIONS



CONNECTION



Input Connection:

Single phase:
- L = Line (2)
- N = Neutral (1)

DC:
- L = + Positive DC (2)
- N = - Negative DC (1)

Output Connection:
(Models: NPSM40-515, -12, -24)
- + = Positive DC (9)
- - = Negative DC (8)

(Model: NPSM40-12D)
- + = Positive DC (9)
- ⊥ = Common DC (8)
- - = Negative DC (7)