



■ **Main Features**

- High efficiency and compact size
- Plastic enclosure, circuit breaker shape
- Simplified wiring (no PE connection)
- Overload up to 170%
- High operating temperature with no derating

TECHNICAL DATA

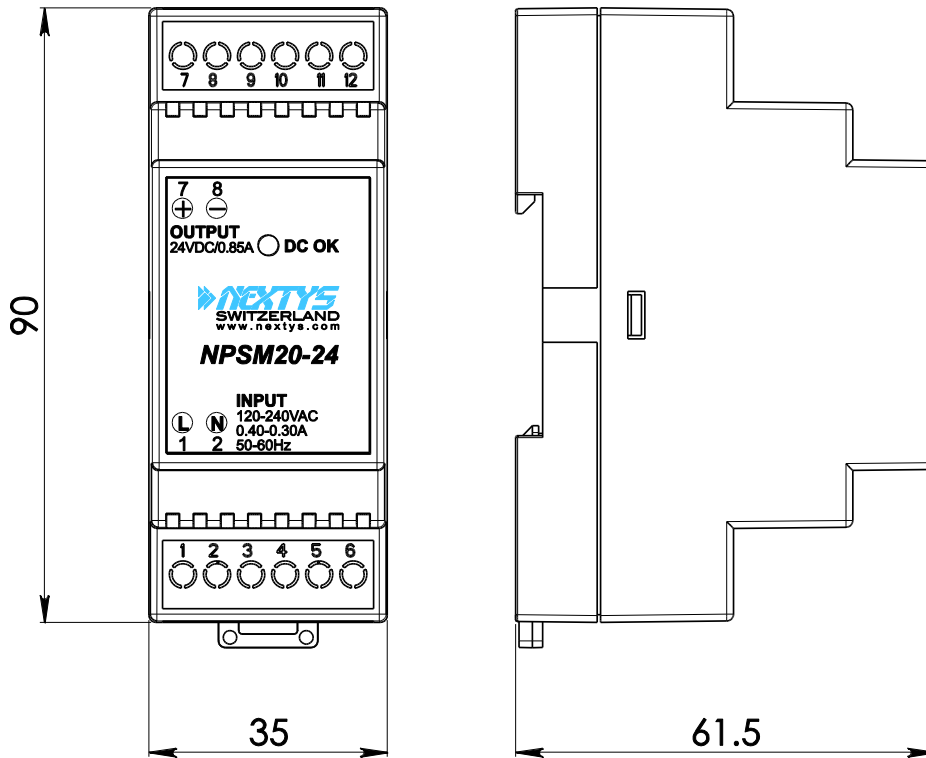
| Model type | NPSM20-5 | NPSM20-12 | NPSM20-24 |
|--|--|---|-------------|
| OUTPUT DATA | | | |
| Rated voltage | 5Vdc | 12Vdc | 24Vdc |
| Adj. output voltage range | 5Vdc Fixed | 12Vdc Fixed | 24Vdc Fixed |
| Continuous current | 4.0A | 1.65A | 0.85A |
| Overload limit | | | |
| Vin = 120Vac | 5.0A | 2.60A | 1.30A |
| Vin = 240Vac | 5.5A | 3.25A | 1.70A |
| Short circuit peak current | 10A | 8.0A | 4.0A |
| Load regulation | ≤ 1% | | |
| Ripple & Noise ¹ | ≤ 50mVpp | ≤ 100mVpp | |
| Hold up time | ≥ 40ms | ≥ 5ms | |
| Protections | <ul style="list-style-type: none"> ▪ 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 | Nominal: 120...240Vac (UL certified) | | |
| Frequency | Range: 90...264Vac 47...63Hz | | |
| Input DC rated voltage | 110...345Vdc | | |
| Input AC rated current | | | |
| Vin = 120Vac | 0.40A | | |
| Vin = 240Vac | 0.30A | | |
| Input DC rated current | | | |
| Vin = 110Vdc | 0.30A | | |
| Vin = 345Vdc | < 0.10A | | |
| Inrush peak current | ≤ 50A | | |
| Touch (leakage) current | ≤ 0.2mA | | |
| Internal protection fuse | Fuse 2AT (not user replaceable) | Fuse 1AT (not user replaceable) | |
| Recommended external protection ³ | MCB 6A C curve / Cartridge fuse Class CC 4AT 250Vac It is strongly recommended to provide external surge arresters (SPD) according to local regulations. | | |
| GENERAL DATA | | | |
| Efficiency | > 81% | > 80% | |
| Dissipated power | < 5W | < 6W | |
| Operating temperature ² | - 40°C...+ 70°C | | |
| | UL certified up to 70°C | UL certified up to 50°C | |
| Derating | No derating | - 0.5W/°C over 50°C | |
| Storage temperature | - 40°C...+ 80°C | | |
| Humidity | 5...95% r.H. non condensing | | |
| Life time expectation | 58'629h (6.6 years) at 25°C ambient full load | | |
| MTBF | <ul style="list-style-type: none"> ▪ MIL-HDBK-217F > 500'000h at 25°C ambient full load | | |
| Overvoltage category | <ul style="list-style-type: none"> ▪ EN50178 | III | |
| Pollution degree | <ul style="list-style-type: none"> ▪ IEC60664-1 | 2 | |
| Protection Class | <ul style="list-style-type: none"> ▪ CLASS | II | |
| Input / output isolation | 4.2kVdc | | |
| Safety Standards | <ul style="list-style-type: none"> ▪ UL508 ▪ EN60950 ▪ EN50178 | (certified E356563) (reference) (reference) | |
| EMC Emission | <ul style="list-style-type: none"> ▪ EN55011 (CISPR11) ▪ EN55011 (CISPR11) ▪ EN55022 (CISPR22) ▪ EN55022 (CISPR22) | Class A (for NPSM20-12/-24) Class B (for NPSM20-5) Class A (for NPSM20-12/-24) Class B (for NPSM20-5) | |
| EMC Immunity | <ul style="list-style-type: none"> ▪ EN61000-4-2 ▪ EN61000-4-3 ▪ EN61000-4-4 ▪ EN61000-4-4 ▪ EN61000-4-5 ▪ EN61000-4-5 ▪ EN61000-4-11 | Level 3 Level 3 Level 3 (for NPSM20-12/-24) Level 4 (for NPSM20-5) Level 3 (for NPSM20-12/-24) Level 4 (for NPSM20-5) Level 2 | |
| Protection degree | <ul style="list-style-type: none"> ▪ EN60529 | IP20 | |
| Vibration sinusoidal | <ul style="list-style-type: none"> ▪ IEC 60068-2-6 | (5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)) | |
| Shock | <ul style="list-style-type: none"> ▪ 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 | 0.1kg | | |
| Size (W x H x D) | 35.0 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) Start-up type tested: - 40°C, possible at nominal voltage with load deration.
 3) In order to be UL compliant use only for NPSM20-5 Listed Cartridge nonrenewable (JDDZ) fuse Class CC 4AT 250Vac

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 (1)
 - N = Neutral (2)

DC:

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

Output Connection:

- + = Positive DC (7)
- - = Negative DC (8)