



IP65



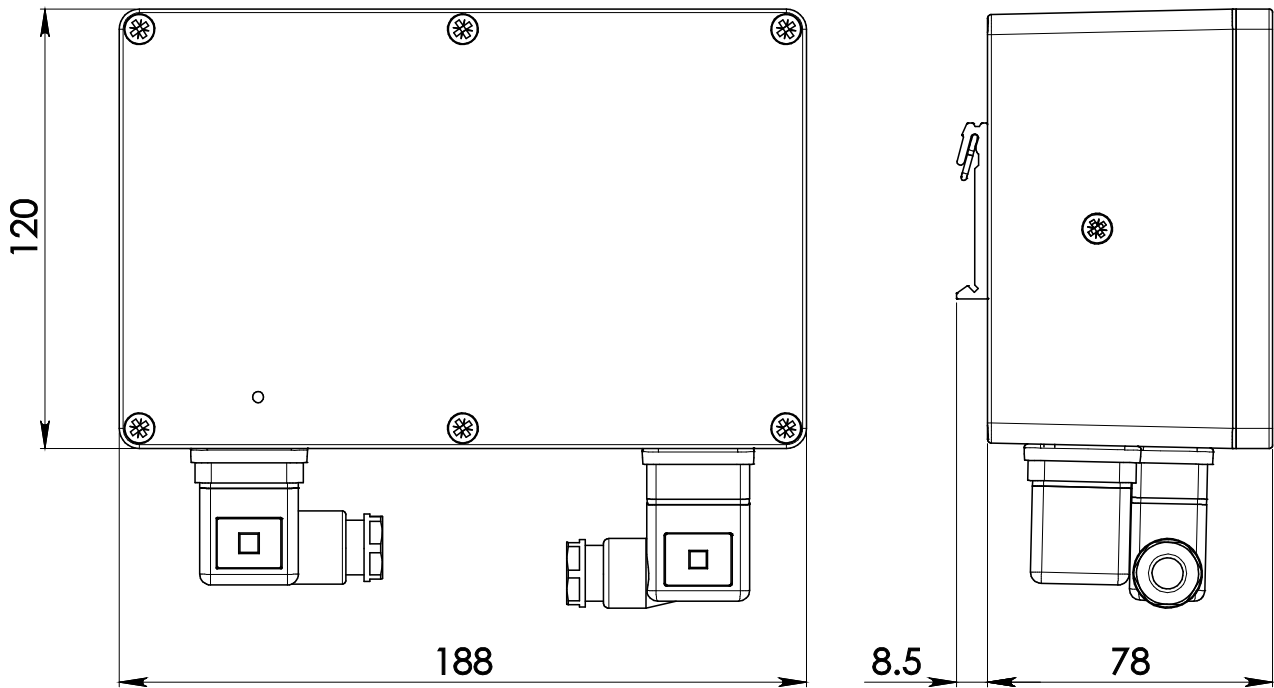
### ■ **Main Features**

- IP65 design
- Suitable for harsh environments
- High efficiency and compact size
- Active PFC
- Overload 150%
- High operating temperature with no derating

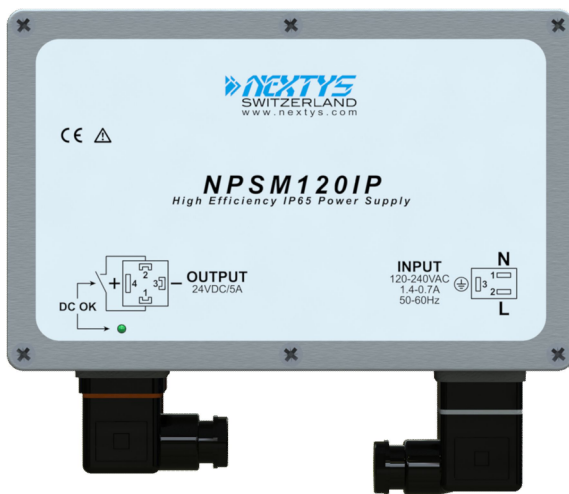
**TECHNICAL DATA**

| Model type   | NPSM120IP  | NPSM240IP  |
|--|--|--|
| <b>OUTPUT DATA</b>   |  |  |
| Rated voltage  | 24Vdc  |  |
| Adj. output voltage range  | 24Vdc fixed  |  |
| Continuous current   | 5A   | 10A  |
| Overload limit   | 7.5A   | 11.5A  |
| Short circuit peak current   | 15A  |  |
| Load regulation  | ≤ 1%   |  |
| Ripple & Noise <sup>1</sup>  | ≤ 60mVpp   | ≤ 250mVpp  |
| Hold up time   | ≥ 20ms   |  |
| Protections  | <ul style="list-style-type: none"> <li>▪ Overload/short circuit: Hiccup mode</li> <li>▪ Thermal protection</li> <li>▪ Input undervoltage lockout</li> <li>▪ Output overvoltage</li> </ul>            |  |
| Output overvoltage protection  | ≥ 33Vdc  |  |
| Status Signals   | <ul style="list-style-type: none"> <li>▪ DC OK - green LED</li> <li>▪ DC OK - dry contact (NO, 24Vdc / 1A)</li> </ul>  |  |
| Parallel connection  | Possible for power or redundancy (with external ORing module)  |  |
| <b>INPUT DATA</b>  |  |  |
| Input AC rated voltage   | Nominal: 120...240Vac  |  |
| Frequency  | Range: 90...264Vac<br>47...63Hz  |  |
| Input DC rated voltage   | 110...345Vdc   |  |
| Input AC rated current   |  |  |
| Vin = 120Vac   | 1.4A   | 2.4A   |
| Vin = 240Vac   | 0.7A   | 1.2A   |
| Input DC rated current   |  |  |
| Vin = 110Vdc   | 1.4A   | 2.6A   |
| Vin = 345Vdc   | 0.5A   | 0.9A   |
| Power Factor Correction  | Active > 0.9   |  |
| Inrush peak current  | ≤ 45A  |  |
| Touch (leakage) current  | ≤ 0.6mA  |  |
| Internal protection fuse (not user replaceable)  | Fuse 3.15AT  | Fuse 6.3AT   |
| Recommended external protection  | Fuse 4AT or MCB 4A C curve   | Fuse 10AT or MCB 10A C curve                             |
|  | It is strongly recommended to provide external surge arresters (SPD) according to local regulations.   |  |
| <b>GENERAL DATA</b>  |  |  |
| Efficiency   | > 90%  | > 93%  |
| Dissipated power   | < 13.5W  | < 19W  |
| Operating temperature <sup>2</sup>   | - 35°C...+ 70°C  | - 40°C...+ 70°C  |
| Derating   | - 3W/°C over 50°C  |  |
| Storage temperature  | - 40°C...+ 80°C  |  |
| Humidity   | 5...95% r.H. non condensing  |  |
| Life time expectation  | 74'640h (8.5 years) at 25°C ambient full load  |  |
| Overvoltage category   | EN50178  | III  |
| Pollution degree   | IEC60664-1   | 2  |
| Protection Class   | Class  | 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 (reference)</li> <li>▪ EN60950 (reference)</li> <li>▪ EN50178 (reference)</li> </ul>  |  |
| EMC Emission   | <ul style="list-style-type: none"> <li>▪ EN55011 (CISPR11) Class B</li> <li>▪ EN55022 (CISPR22) Class B</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 3</li> <li>▪ EN61000-4-5 Level 3</li> <li>▪ EN61000-4-11 Level 2</li> </ul> |  |
| Protection degree  | EN60529  | IP20   |
| Vibration sinusoidal   | 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 <sup>2</sup> , screw type DIN43650 (24...12AWG)  |  |
| Case material  | Aluminum (anodized)  |  |
| Weight   | 1.4kg  |  |
| Size (W x H x D)   | 188.0 x 120.0 x 78.0mm   |  |
| <p>1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.<br/>                 2) Start-up type tested: - 35°C / - 40°C, possible at nominal voltage with load deration.</p> <p><b>Notes:</b><br/>                 - Technical parameters are typical, measured in laboratory environment at 25°C and 240Vac / 50Hz, at nominal values, after minimum 5 minutes of operation.<br/>                 - Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details.<br/>                 - Data may change without prior notice in order to improve the product.</p> |  |  |

**DIMENSIONS**



**CONNECTION**



(only for reference)

**Input Connection:**

- Single phase:
- L = Line (2)
  - N = Neutral (1)
  - | = Earth ground (3)

**DC:**

- L = + Positive DC (2)
- N = - Negative DC (1)
- | = Earth ground (3)

**Output Connection:**

- + = Positive DC (4)
- - = Negative DC (3)

**Signalling:**

- **DC OK:** dry contact
- NO (2)
- COM (4)