

### ■ Main Features

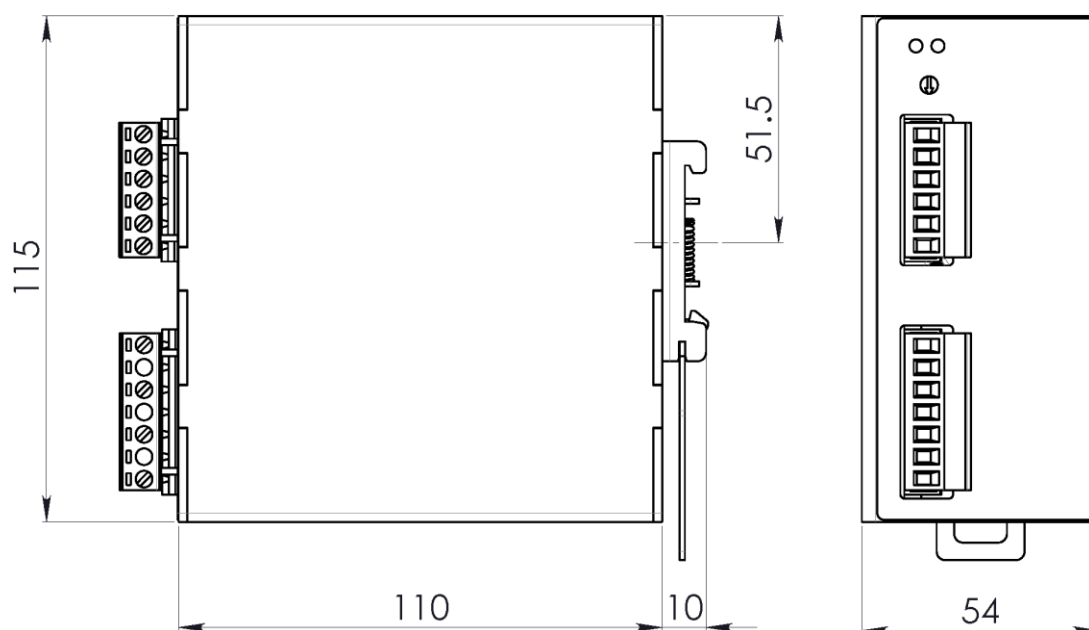
- High efficiency and compact size
- Only 54mm width aluminum enclosure
- 1, 2 or 3 phases input AC 187...550Vac
- Wide DC input range 250...725Vdc
- Overload 150%
- Excellent field reliability record
- Usable for broad range of industrial, telecom and renewable energy applications

## TECHNICAL DATA

| Model type   | NPSW240-12   | NPSW240-24   | NPSW240-48P | NPSW240-72P |
|--|--|--------------|-------------|-------------|
| OUTPUT DATA  |  |              |             |             |
| Rated voltage  | 12...15Vdc   | 24Vdc        | 48Vdc       | 72Vdc       |
| Adj. output voltage range  | 12...15Vdc   | 23...28Vdc   | 45...55Vdc  | 72...85Vdc  |
| Continuous current   | 15...12A   | 10A          | 5.0A        | 3.5A        |
| Overload limit (max. 6s)   | 20A  | 15A          | 7.5A        | 5.0A        |
| Short circuit peak current   | 34A  | 38A          | 18A         | 13A         |
| Load regulation  | ≤ 1%   |              | ≤ 1.5%      |             |
| Ripple & Noise <sup>1</sup>  | ≤ 100mVpp  |              |             |             |
| Hold up time<br>Vin = 240Vac<br>Vin = 500Vac   | ≥ 15ms<br>≥ 100ms  |              |             |             |
| 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     | ≥ 100Vdc    |
| Status Signals   | <ul style="list-style-type: none"><li>DC OK - green LED</li><li>OVERLOAD - red LED</li><li>DC OK - 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>   |              |             |             |
| INPUT DATA   |  |              |             |             |
| Input AC rated voltage<br>Frequency  | Nominal: 1/2/3 phases, 200...500Vac (UL certified)<br>Range: 187...550Vac<br>47...63Hz   |              |             |             |
| Input DC rated voltage   | 250...725Vdc<br>(300...500Vdc UL508 certified, 250...600Vdc UL62368-1 certified)   |              |             |             |
| Input AC rated current<br>Vin = 200Vac 1/2 Ph<br>Vin = 500Vac 1/2 Ph<br>Vin = 200Vac 3Ph<br>Vin = 500Vac 3Ph | 2.2A (UL508) / 2.2A (UL62368-1)<br>1.1A (UL508) / 1.6A (UL62368-1)<br>1.5A (UL508) / 1.5A (UL62368-1)<br>0.8A (UL508) / 0.8A (UL62368-1)   |              |             |             |
| Input DC rated current<br>Vin = 250Vdc<br>Vin = 725Vdc   | 0.9A<br>0.4A   | 1.4A<br>0.5A |             |             |
| Inrush peak current <sup>2</sup> / I <sup>2</sup> t  | ≤ 45A / 1.31A <sup>2</sup> s   |              |             |             |
| Touch (leakage) current  | ≤ 1.3mA  |              |             |             |
| Internal protection fuse   | None, external fuse must be provided   |              |             |             |
| Recommended external protection  | Fuse 6.3AT or MCB 6A C or MCB 4A D curve<br>It is strongly recommended to provide external surge arresters (SPD) according to local regulations.   |              |             |             |
| GENERAL DATA   |  |              |             |             |
| Efficiency   | > 89%  | > 93%        | > 91%       | > 92%       |
| Dissipated power   | < 22.5W  | < 18W        | < 23.5W     | < 22W       |
| Operating temperature <sup>3</sup>   | - 40°C...+ 70°C<br>UL certified up to 50°C   |              |             |             |
| Derating   | - 4.2W/°C over 50°C  |              |             |             |
| Storage temperature  | - 40°C...+ 80°C  |              |             |             |
| Humidity   | 5...95% r.H. non condensing  |              |             |             |
| Life time expectation  | 81'648h (9.3 years) at 25°C ambient full load  |              |             |             |
| MTBF   | <ul style="list-style-type: none"><li>MIL-HDBK-217F</li><li>&gt; 500'000h at 25°C ambient full load</li></ul>  |              |             |             |
| Overvoltage category   | <ul style="list-style-type: none"><li>EN50178</li><li>III</li></ul>  |              |             |             |
| Pollution degree   | <ul style="list-style-type: none"><li>IEC60664-1</li><li>2</li></ul>   |              |             |             |
| Protection Class   | <ul style="list-style-type: none"><li>CLASS</li><li>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>UL62368-1 (certified E511889, only NPSW240-24)</li><li>IEC/EN61010-1</li><li>IEC/EN61010-2-201</li><li>IEC/EN60950</li></ul>   |              |             |             |
| EMC Emission   | <ul style="list-style-type: none"><li>EN55011 (CISPR11)</li><li>Class A</li></ul>  |              |             |             |
| EMC Immunity   | <ul style="list-style-type: none"><li>EN61000-4-2</li><li>EN61000-4-3</li><li>EN61000-4-4</li><li>EN61000-4-5</li><li>EN61000-4-6</li><li>EN61000-4-8</li><li>EN61000-4-11</li><li>Level 3 (Air), Level 2 (Contact)</li><li>Level 3 (80-1000MHz), Level 2 (1.4-6GHz)</li><li>Level 3</li><li>Level 3</li><li>Level 3</li><li>Level 4</li><li>Level 2</li></ul> |              |             |             |
| Protection degree  | <ul style="list-style-type: none"><li>EN60529</li><li>IP20</li></ul>   |              |             |             |
| Vibration sinuosoidal  | <ul style="list-style-type: none"><li>IEC 60068-2-6</li><li>(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</li><li>(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   | 0.65kg   |
| Size (W x H x D)   | 54.0 x 115.0 x 110.0mm                                 |
| 1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.<br>2) Peak current measured after 0.2ms from main connection; 400Vac/50Hz; Ambient temperature at 25°C; Cold Start.<br>3) Start-up type tested: - 40°C, possible at nominal voltage with load deration.   |  |
| <b>Notes:</b><br>- Technical parameters are typical, measured in laboratory environment at 25°C and 400Vac / 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. |  |

## DIMENSIONS



## CONNECTION



### Input Connection:

#### Single phase:

- L = Line
- N = Neutral
- ⊕ = Earth ground

#### 2 phases:

- L1 = phase 1
- L2 = phase 2
- ⊕ = Earth ground

#### 3 phases:

- L1 = phase 1
- L2 = phase 2
- L3 = phase 3
- ⊕ = Earth ground

#### DC:

- L1(L) = + Positive DC
- L2(N) = - Negative DC
- L3 = do not connect
- ⊕ = Earth ground

### Output Connection:

- + = Positive DC
- - = Negative DC

#### Signalling:

- DC OK: dry contact
- NO
- COM