The new SMA DC-DC Converter allows designers to increase their PV power plant’s yields by oversizing the DC array without compromising energy losses. This is accomplished with the new DC-coupling option and the generous DC-AC ratios of the Sunny Central EV inverter series. The inverter can intelligently control the flow of power for many different use cases, including clipped-loss capturing. The stored energy can be fed in at specific times, for example in the morning or evening, to achieve a better power price point. Grid operators benefit from grid services, such as frequency control and time-based feed-in schedules. Up to six SMA DC-DC Converters can be connected and operated simultaneously by the Sunny Central inverter. This minimizes battery short-circuit currents for high energy applications and avoids the need for additional and expensive protection measures inside the battery container.
**Technical Data**

<table>
<thead>
<tr>
<th><strong>SMA DC-DC CONVERTER</strong></th>
<th><strong>Electrical Data</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. continuous power (at 30 °C)</td>
<td>500 kW at 1000 VDC 600 kW at 1200 VDC to 1500 VDC</td>
</tr>
<tr>
<td>Battery input voltage range</td>
<td>550 V to 1500 V</td>
</tr>
<tr>
<td>PV input voltage range</td>
<td>550 V to 1500 V</td>
</tr>
<tr>
<td>Max. continuous current (at 30 °C)</td>
<td>+/- 500 A</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>120 V, 1 ph, 60 Hz, 600 VA 230 V, 1 ph, 50 Hz, 600 VA 277 V, 1 ph, 60 Hz, 600 VA</td>
</tr>
<tr>
<td>Battery technology</td>
<td>compatible with all common battery technologies</td>
</tr>
</tbody>
</table>

**Efficiency**

- Average efficiency: 98.2 %

**Protective devices**

- Battery-side disconnection point: Circuit breaker in the battery system
- PV-side disconnection point: Fusing inside the Sunny Central
- Ground-fault monitoring and insulation monitoring: Use of monitoring in the Sunny Central
- Overvoltage protection for auxiliary supply: *●*

**General Data**

- Dimensions (W / H /D): 850.9 / 2044.7 / 1000.8 mm (33.5 / 80.5 / 39.4 inches)
- Weight: 590 kg/1300 lb
- Operating temperature: -25 °C to 55 °C / -13 °F to 131 °F
- Storage temperature: -40 °C to 70 °C / -40 °F to 158 °F
- Noise emission (sound pressure level at a distance of 10 m): < 65 dB(A)
- Cooling method: Forced air-cooling
- Degree of protection of enclosure: IP54 / UL Type 3R
- Application in unprotected outdoor environments: *●*
- Max. permissible value for relative humidity (non-condensing): *● / ○ / ○ (earlier temperature-dependent de-rating)*
- Maximum operating altitude above MSL: 1000 m / 2000 m / 3000 m
- Fresh air consumption: 2720 m³/h (96000 ft³/h)

**Equipment**

- Cable Entry: Bottom
- Communication / protocols: Modbus TCP/IP
- System monitoring: Real-time monitoring with automated alerts and data storage
- Status lights: On the front for operating mode, alert and error state
- Warranty: 5 / 10 / 15 years

**Type designation**

DPS-S500