Efficient
- 98.8% maximum efficiency
- High power density: 60 kW with a weight of only 75 kg

Flexible
- DC input voltage up to 1000 V
- Suitable for high-voltage batteries
- Systems from 60 kW to the MW range

Innovative
- Modular extendable system solutions
- Configurable SMA Inverter Manager Storage

Costumer-oriented
- Peak power management and self-consumption applications
- Ancillary services for remote and industrial applications

SUNNY TRIPower STORAGE 60
The highly flexible commercial battery inverter for grid-tied applications

As a three-phase battery inverter, the Sunny Tripower Storage is a perfectly solution for commercial and industrial applications worldwide. The bidirectional STP Storage is a key product in SMA’s storage portfolio, providing maximum flexibility in project design for scalable system solutions up to the megawatt class. Thanks to its comprehensive energy management functionalities, the STP Storage supports a wide range of ancillary services as well as peak power management and self-consumption. Customers in the commercial storage segment benefit from full system flexibility at the best price with the potential to open up new business models.
### SUNNY TRIPOWER STORAGE 60

#### Technical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Voltage supply</strong></td>
<td></td>
</tr>
<tr>
<td>Input voltage</td>
<td>9 to 36 Vdc</td>
</tr>
<tr>
<td>Power consumption</td>
<td>&lt; 20 W</td>
</tr>
<tr>
<td><strong>General data</strong></td>
<td></td>
</tr>
<tr>
<td>Dimensions (W/H/D)</td>
<td>160 / 125 / 49 mm (6.3 / 4.9 / 1.9 inches)</td>
</tr>
<tr>
<td>Weight</td>
<td>940 g (2 lbs)</td>
</tr>
<tr>
<td>Mounting</td>
<td>DIN top-hat rails or wall mounting</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>−40 °C to +75 °C (-40° F to +167° F)</td>
</tr>
<tr>
<td>Relative humidity (non-condensing)</td>
<td>5% to 95%</td>
</tr>
<tr>
<td><strong>Interfaces</strong></td>
<td></td>
</tr>
<tr>
<td>PC user interface</td>
<td></td>
</tr>
<tr>
<td>Sensor interface / protocol</td>
<td></td>
</tr>
<tr>
<td>Interface to inverter</td>
<td></td>
</tr>
<tr>
<td>Interface for external network / protocol</td>
<td></td>
</tr>
<tr>
<td>Certificates and approvals (more available upon request)</td>
<td></td>
</tr>
</tbody>
</table>

#### SMA Inverter Manager Storage

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<tr>
<td>PC user interface</td>
<td>LCS tool</td>
</tr>
<tr>
<td>Sensor interface / protocol</td>
<td>RS485 / Modbus RTU for SunSpec Alliance</td>
</tr>
<tr>
<td>Interface to inverter</td>
<td>1 Ethernet port [RJ45]</td>
</tr>
<tr>
<td>Interface for external network / protocol</td>
<td>1 Ethernet port [RJ45] / Modbus TCP, SunSpec Alliance</td>
</tr>
<tr>
<td>Certificates and approvals (more available upon request)</td>
<td>UL 508, UL 60950-1, CSA C22.2 No. 60950-1-07, EN 60950-1, EN 55022 Class A, EN 61000-3-2 Class D, EN 61000-3-3, EN 55024, FCC Part 15, Subpart B Class A</td>
</tr>
</tbody>
</table>

#### SMA Inverter Manager Storage type designation

| Specification | IMS |
### Efficiency Curve

1) The values are based on PV inverter STP 60-10

### Technical Data

#### Input (DC)
- **Max. DC power**: 61240 W
- **Max. input voltage**: 1000 V
- **Start input voltage at 400 Vac**: 575 V
- **Max. DC power range**: 61240 W
- **Max. input voltage**: 1000 V
- **Battery voltage range at 400 Vac**: 660 V
- **Min. input voltage**: 575 V
- **Max. input current**: 93 A
- **Max. short-circuit current**: depending on the DC connection box

#### Output (AC)
- **Rated power at nominal voltage**: 60000 W
- **Max. apparent AC power**: 60000 VA
- **Max. reactive power**: 60000 Var
- **Nominal AC voltage**: 3 / PE, 400 V, ±10 %
- **AC voltage range**: 360 V to 440 V
- **AC power frequency**: 50 Hz to 60 Hz
- **Rated power frequency**: 50 Hz to 60 Hz
- **Max. output current at 400 Vac**: 87 A
- **Power factor at rated power / displacement power factor adjustable**: 1 / 0 overexcited to 0 underexcited
- **THD**: ≤ 1 %
- **Feed-in phases/connection phases**: 3 / 3
- **Efficiency**: 98.8 %

#### Protective devices
- **Input side disconnection point**: ●
- **Ground fault monitoring / grid monitoring**: ●
- **Integrable DC surge arrester / AC surge arrester**: Type II / type II + III (combined)
- **AC short-circuit current capability / galvanically isolated**: ●
- **All-pole sensitive residual-current monitoring unit**: ●
- **Protection class (as per IEC 62109-1) / overvoltage category (as per IEC 62109-1)**: 1 / AC III; DC II

#### General data
- **Dimensions [W/H/D]**: 570 / 740 / 300 mm (22.4 / 29.1 / 11.8 inches)
- **Weight**: 75 kg (165.3 lb)
- **Operating temperature range**: -25°C to +40°C (-13°F to +140°F)
- **Noise emission, typical**: 58 dB(A)
- **Self-consumption (at night)**: < 3 W
- **Topology / cooling concept**: Transformerless / active
- **Degree of protection (according to IEC 60529 / UL 50E)**: IP65 / NEMA 3R
- **Climatic category (as per IEC 60721-3-4)**: 4K4H/4Z4/4B2/4S3/4M2/4C2
- **Max. permissible value for relative humidity (non-condensing)**: 95 %

#### Features / function / accessories
- **DC connection / AC connection**: Screw terminal / screw terminal
- **Data interface**: SunSpec Modbus TCP (via external SMA Inverter Manager)
- **Display**: Graphical
- **Off-grid capable / PV-diesel capable**: ● / ○
- **Warranty**: 5 / 10 / 15 / 20 years

### Sunny Tripower Storage 60

- **Max. DC power**: 61240 W
- **Max. input voltage**: 1000 V
- **Start input voltage at 400 Vac**: 660 V
- **Battery voltage range at 400 Vac**: 660 V to 1000 V / 600 V to 1000 V
- **Min. input voltage**: 575 V
- **Max. input current**: 93 A
- **Max. short-circuit current**: depending on the DC connection box
- **Rated power at nominal voltage**: 60000 W
- **Max. apparent AC power**: 60000 VA
- **Max. reactive power**: 60000 Var
- **Nominal AC voltage**: 3 / PE, 400 V, ±10 %
- **AC voltage range**: 360 V to 440 V
- **AC power frequency**: 50 Hz to 60 Hz
- **Rated power frequency**: 50 Hz to 60 Hz
- **Max. output current at 400 Vac**: 87 A
- **Power factor at rated power / displacement power factor adjustable**: 1 / 0 overexcited to 0 underexcited
- **THD**: ≤ 1 %
- **Feed-in phases/connection phases**: 3 / 3
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### Protective devices
- **Input side disconnection point**: ●
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- **Integrable DC surge arrester / AC surge arrester**: Type II / type II + III (combined)
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### General data
- **Dimensions [W/H/D]**: 570 / 740 / 300 mm (22.4 / 29.1 / 11.8 inches)
- **Weight**: 75 kg (165.3 lb)
- **Operating temperature range**: -25°C to +40°C (-13°F to +140°F)
- **Noise emission, typical**: 58 dB(A)
- **Self-consumption (at night)**: < 3 W
- **Topology / cooling concept**: Transformerless / active
- **Degree of protection (according to IEC 60529 / UL 50E)**: IP65 / NEMA 3R
- **Climatic category (as per IEC 60721-3-4)**: 4K4H/4Z4/4B2/4S3/4M2/4C2
- **Max. permissible value for relative humidity (non-condensing)**: 95 %

### Features / function / accessories
- **DC connection / AC connection**: Screw terminal / screw terminal
- **Data interface**: SunSpec Modbus TCP (via external SMA Inverter Manager)
- **Display**: Graphical
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- **Warranty**: 5 / 10 / 15 / 20 years

### Certificates and approvals (more available upon request)

1) The values are based on PV inverter STP 60-10
2) Does not apply to all national appendices of EN 50438
3) Restricted (Note Manufacturer’s Declaration)