



# Sunny Tower



The Effective Solution for Large PV Systems



# Sunny Tower

## Central Inverter and String Inverter in One



For feeding into the public grid, the direct current from the solar modules must be converted into grid-compliant alternating current. In order to prevent losses, the ideal place for this to occur is where the direct current is generated. For this purpose, SMA can provide you with a wide range of proven string inverters. Also at your disposal are efficient central inverters, which are highly suitable for implementation in very large solar power stations.

With the new Sunny Tower, we now offer you an innovative solution for systems of 20 to around 200 kW, which combines the positive aspects of string technology with those of the central inverter: unbeatable with regard to efficiency and MPP tracking, it impresses with its innovative mechanical and logistical concept, which ensures easy operation and installation.





## High Efficiency

The Sunny Tower is a combination of 6 Sunny Mini Central inverters, optimally aligned with each other, on a stainless steel tower mount. Equipped with the SMC 8000TL, it achieves 98 % efficiency. This guarantees a high energy yield, and a short payback time.

## Optimal MPP Tracking

While in a central inverter, a single MPP tracker works for the entire solar generator, in the Sunny Tower the MPP trackers of the individual inverters ensure optimal exploitation of the solar generator.

## Very Easy Installation

Upon delivery, the complete Sunny Tower is preassembled, and the cabling preinstalled. Furthermore, a single connection point on the AC side provides for clear and uncomplicated connection to the grid.

### An overview of the advantages:

- » High efficiency of 98 %
- » Low specific price
- » Increased yield due to multiple MPP trackers
- » Modular structure
- » Maximum performance up to 40 °C due to OptiCool
- » Outdoor installation possible
- » Very easy installation and maintenance

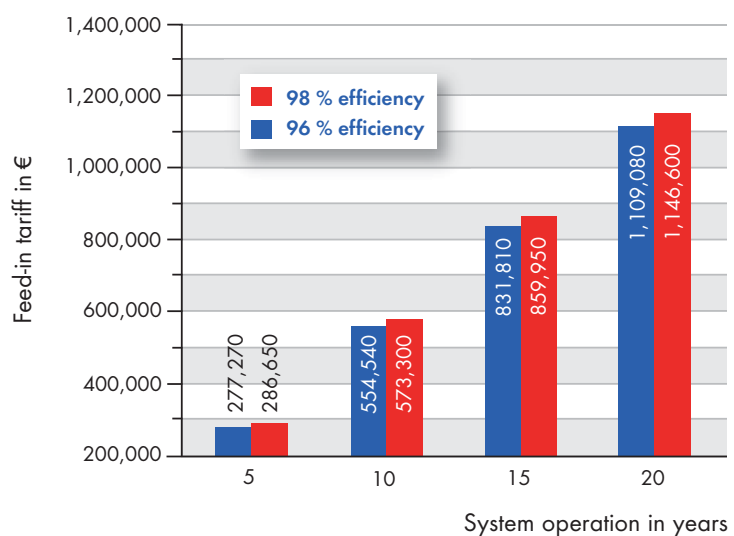
# A Great Combination

## Sunny Tower PLUS Sunny Mini Central SMC 8000TL

The Sunny Tower arose from efforts to provide a reasonably priced high performance 100 kW device as an alternative to the classic central inverter concept. The fact that the SMC 8000TL is used here comes as no surprise. Because with over 98 % efficiency, this string inverter sets a new benchmark.

The Sunny Tower can of course be equipped with all other Sunny Mini Central models. This provides the flexibility necessary in system planning. For example, this also allows implementation of inverters with galvanic isolation in large systems with thin-film modules.

Thus, two Sunny Towers connected in parallel, with a total of 12 devices, achieve a maximum output of 96 kW, with what is at present the shortest payback time achievable for solar inverters.



In 20 years, a Sunny Tower earns up to 37,500 euros more than an average inverter, due to its high efficiency (based on system output of 100 kW, installation in 2007, difference in efficiency of 2 %, feed-in tariff as in Federal Republic of Germany).





# Harvest More Sun

**With Optimal MPP Tracking and State-of-the-Art Technology**

With the Sunny Tower, it is not just the 98 % efficiency which ensures an excellent energy yield. The MPP tracking also contributes to the maximization of yield. Because while in a central inverter, a single MPP tracker works for the entire solar generator, in the Sunny Tower the MPP trackers of 6 inverters (or 12, respectively) ensure optimal alignment of the generator's individual arrays.

In addition, the devices also have the latest SMA inverter technology, including the new H5 bridge, the DC load disconnecting switch ESS, and the cooling system OptiCool.

This makes the Sunny Tower not only a profitable investment, but also a highly reliable one.



# Easy Installation

## Easy to Extend

The ease of handling during installation and maintenance of the Sunny Tower is primarily due to the clear structure and the implementation of Sunny Mini Central inverters, which are easy to operate.

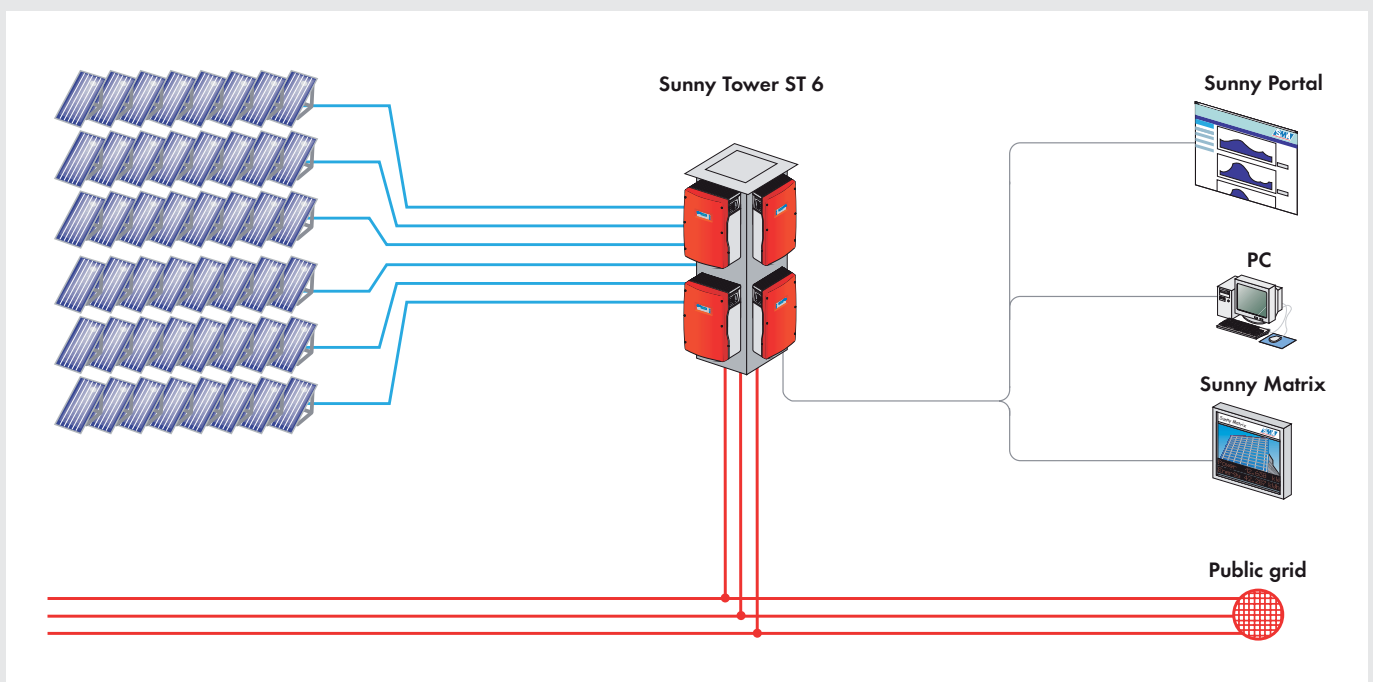
### Delivered as a "Turnkey Solution"

The Sunny Tower is delivered as a "turnkey solution": the complete structure is preassembled, and the cabling preinstalled. An easily accessible circuit breaker for each inverter, and just one connection point on the

AC side provide for clear and uncomplicated commissioning. The DC cables are simply to be fed through the Sunny Tower, and directly connected to the inverters by means of the proven Multi-Contact plugs.

### Flexibly Extendible

The modular structure of the Sunny Tower brings additional significant advantages. It guarantees not only high system availability, but also flexible extension of your solar power station.



For higher system outputs, several Sunny Towers can be connected in parallel.



### Modularity

With the Sunny Tower, systems can be comfortably realized in small clusters. Thus, large solar power stations can be constructed step by step, or also extended later. This makes the system highly flexible. Furthermore, the modular structure guarantees higher system availability, and if a fault should arise, it does not affect the entire generator.



### Effectiveness

While in a central inverter, a single MPP tracker works for the entire solar generator, in the Sunny Tower the individual devices ensure an optimal energy yield. In addition, the Sunny Mini Centrals, with H5 topology, have the latest inverter technology, and achieve 98 % efficiency. Furthermore, due to improved operation under partial load in mornings and evenings, or when the sky is cloudy, an optimal amount of solar energy can be converted and fed into the grid.



### Safety

With the independent disconnection device SMA grid guard 2, and the optional Electronic Solar Switch (ESS), the Sunny Mini Centrals meet the highest safety standards on both the AC side and the DC side. SMA grid guard 2 permanently monitors the public grid, which means that faults are detected immediately, and the solar power system is disconnected from the grid if necessary. The integrated DC load disconnecter ESS ensures the highest level of operational safety for all installation and maintenance work.



### Communication

The Sunny Tower is compatible with the SMA communication products, and as an option, can be delivered with the Sunny WebBox. This device continuously records and stores all available data in real time, and thus enables comprehensive system control at a PC. In conjunction with the Sunny Portal, the measurement data can be archived, processed, and displayed online. If desired, the Sunny Portal also generates a daily system report.



### OptiCool

With the cooling system OptiCool, the new Sunny Mini Centrals use intelligent temperature management: the housing, which is divided into two chambers, guarantees optimal cooling of the components which generate heat. The highly sensitive electronic components are also contained in a dust and waterproof area, thus protecting them safely. Therefore, the inverters function continually at maximum output, even at ambient temperatures of up to 40 °C.



### 25 Years of Experience

SMA has been developing and producing technical components for PV systems since 1981. The very first mass-produced inverter for grid-connected photovoltaic systems was already supplied by SMA. Today, with 25 years of experience, we can offer you a range of products with devices suited to almost any application. Helping to ensure that photovoltaics continues to progress in the future, we have more than 200 developers and engineers working constantly to research and optimize new technologies.



# Technical Data:

## SMC 8000TL

## Sunny Tower 6

### Input data

Max. DC output  
DC voltage range  
Max. MPP voltage  
Max. input current  
Max. no. of strings

8250 W  
335 V – 700 V  
500 V  
25 A  
4

49.5 kW  
335 V – 700 V  
500 V  
6 x 25 A  
24

### Output data

Continuous AC output  
Nominal AC output  
Max. output current

8000 W at 40 °C  
8000 W  
35 A

48 kW at 40 °C  
48 kW  
3 x 70 A

### Efficiency

Maximum efficiency  
European standard efficiency

98 %  
97.7 %

98 %  
97.7 %

### Mechanical data

Weight  
Protection degree

approx. 33 kg  
IP 65

approx. 300 kg  
IP 54

**SMA Technologie AG**  
Hannoversche Strasse 1 – 5  
34266 Niestetal, Germany  
Tel.: +49 561 9522 4000  
Fax: +49 561 9522 4040  
E-mail: [info@SMA.de](mailto:info@SMA.de)  
Freecall: +800 SUNNYBOY  
Freecall: +800 78669269



Order your free catalog at:  
[www.SMA.de](http://www.SMA.de)

Supplied by:



[www.SMA.de](http://www.SMA.de)

