



# SUNNY ISLAND 6.0H / 8.0H



**SIMPLE. ROBUST. FLEXIBLE.**



## A NEW CLASS OF SUNNY ISLAND SIMPLE. ROBUST. FLEXIBLE.

Sunny Island 6.0H and 8.0H – more than just a new name. The Sunny Island lets you know what it can do at a glance: a 30 minute power of 6000 and 8000 watt. How? It takes fluctuations in energy consumption into account better than designs based on nominal power. Why complicate things when simplicity is this good?

### **The perfect partner**

If you don't ask, you'll never know. That's what we tell our children. But it's just as true for adults. That's why we asked what you wanted from the ideal off-grid inverter. The answers: It has to be robust – for global use. It has to be easy to understand – for simple handling anywhere in the world. And it has to be flexible – for systems

which can be customized for the specific requirements.

### **A dynamic duo**

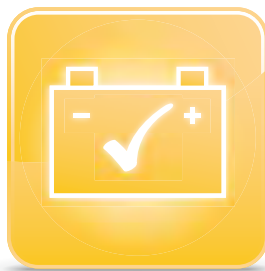
Admittedly, it wasn't easy to combine all that in one device. That's why we designed not one, but two new Sunny Island models. The devices are particularly robust and can be used virtually anywhere – in deserts, rainforests, islands or arctic conditions. Thanks to the sophisticated OptiUse operating concept, they are simple to understand – for planners, installers and operators. The intelligent OptiPower load and energy management system keeps the stand-alone grid safely on course, even in critical situations. With Sunny Island, you can now design your plant flexibly. The

two power classes offer nearly unlimited options for precision plant design.

That is why our answer to the search for the ideal partner for reliable and autonomous energy supply is Sunny Island. The all-inclusive package.



OptiUse



OptiBat



OptiPower



## SIMPLE. EVERYTHING AT A GLANCE WITH OPTIUSE

What makes everything so simple with Sunny Island? Our new OptiUse operating concept makes installation, commissioning and day-to-day use as easy as possible. A cluster, i.e. a system with multiple Sunny Island units, can be configured and operated centrally using the master device. The Quick Configuration Guide helps you complete commissioning in just a few steps. And the automatic rotating field detection function shows possible installation errors immediately.

### **Intuitive operation**

All settings can now be made conveniently using the external Sunny Remote Control operating unit. It's child's play with the self-explanatory menu interface and the rotary switch. Three user levels make it easier to

operate the devices: In the USER level, normal users see a clear overview of the most important values in plain text. Advanced operators can use the INSTALLER and EXPERT levels with a detailed display.

### **Clear and informative**

The home screen gives you access to the energy flow between the loads, battery and external energy sources. The STATE OF CHARGE display shows you the current battery status like the fuel gauge in an automobile. Our OptiBat battery management system takes care of the sensitive energy storage unit. It controls the most important charging and discharging processes fully automatically, increasing the electrical endurance of the batteries.



### Simply good

- Easy installation, commissioning and everyday use
- Central configuration and operation of clusters using the Single Point of Operation function
- Clear and location-independent operation using the external Sunny Remote Control display



OptiUse



OptiBat





## ROBUST. FOR GLOBAL USE

What makes Sunny Island so robust? It is impervious to fine desert sand, high humidity in rainforests, or salty mist in coastal regions and significant temperature fluctuations. Its high degree of protection IP54 and the OptiCool cooling concept make it reliable in operation even in the most extreme of conditions – for 20 years. And the best thing is – you don't sacrifice any overload capacity or economic viability.

### **Equipped for all eventualities**

OptiPower, the intelligent load and energy management system, ensures that off-grid systems remain operational, even in critical situations. The soft start function makes the Sunny Island a powerful aid when starting with critical loads. Virtually no barrier is too high for the device – it keeps going even at particularly high inrush currents of electric

devices. If there is a shortage of renewable energy, the Sunny Island automatically starts a diesel generator. If this energy supply is not sufficient, the Sunny Island disconnects the loads automatically from the power distribution grid, avoiding a harmful deep discharge of the battery. When solar, wind or water energy is available again, the inverters start charging the batteries immediately and connect the loads again.

### **Using energy intelligently**

And because energy is so valuable, we designed the Sunny Island to be particularly energy efficient. If the inverters do not have to supply any loads at night, they deactivate automatically – and switch on again within a second when they are needed. That preserves valuable resources.



### Simply robust

- Can be used anywhere thanks to degree of protection IP54
- Extended temperature range thanks to OptiCool
- Durable and reliable thanks to the interaction of tried and trusted technologies



OptiPower



## FLEXIBLE. PLANNED PRECISION

What makes Sunny Island particularly flexible? The inverter power can be adapted precisely to the system requirements. For us, that is the most important prerequisite for reliable and efficient operation of off-grid systems. Underdimensioned systems are often overloaded and can switch off. By contrast, if the system is overdimensioned, it can rarely operate at the ideal operating point, which makes it inefficient.

### **Tailored plant planning**

The new Sunny Island units give you flexibility in putting together your plant, to allow you to design it specifically for the power requirement of the system. From 3 to 300 kilowatts, they give plant planners virtually unlimited options. Of course the devices also support the SMA multicluster

technology – the systems can be extended at any time as the energy demand increases. Plant design has never been better or more economical.

Our SMA Off-Grid Configurator supports you when planning and designing off-grid systems. The software maps every design aspect, from dimensioning the PV plant, the battery and the inverter to calculating economic viability.





### Simply flexible

- All system sizes from 3 to 300 kilowatts can be implemented
- Precise plant design
- Subsequent extension-options
- Supports SMA multicluster technology



SMA Off-Grid Configurator



## SYSTEM CONSTELLATIONS UNLIMITED OPTIONS

Why choose Sunny Island? Because it gives you absolute freedom and precision in plant design with 99 system constellations.

### **For small plants**

Our smallest and simplest system is called the single system. It is suitable for powers from 3 to 8 kilowatts. One Sunny Island is connected to the battery in this system. For example, it allows you to supply electricity to an isolated building, which cannot be connected to the power distribution grid.

### **For medium plants**

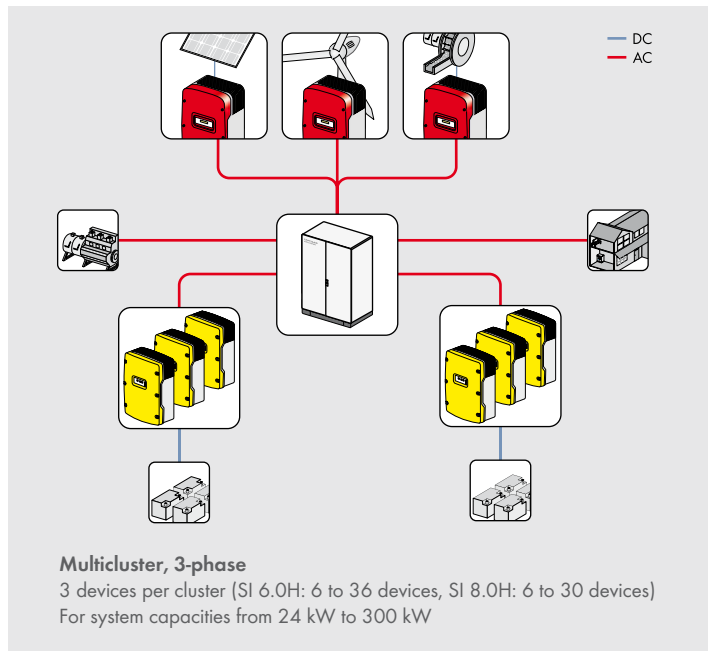
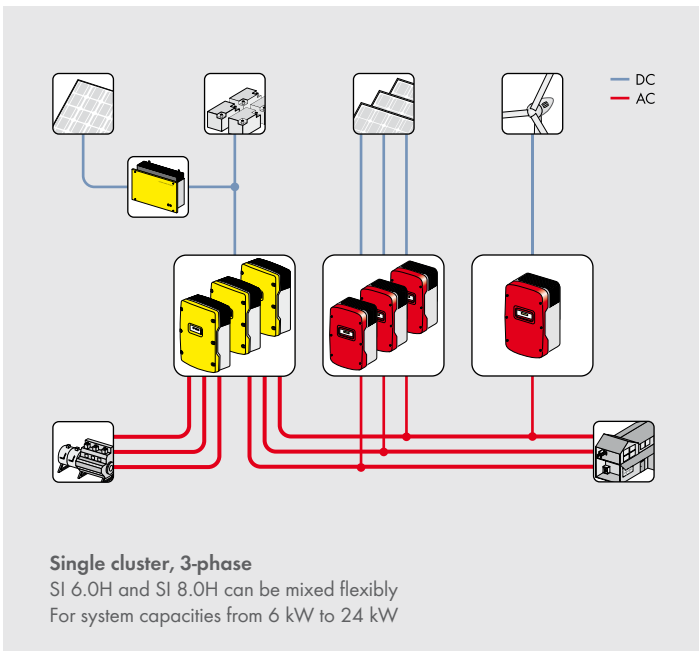
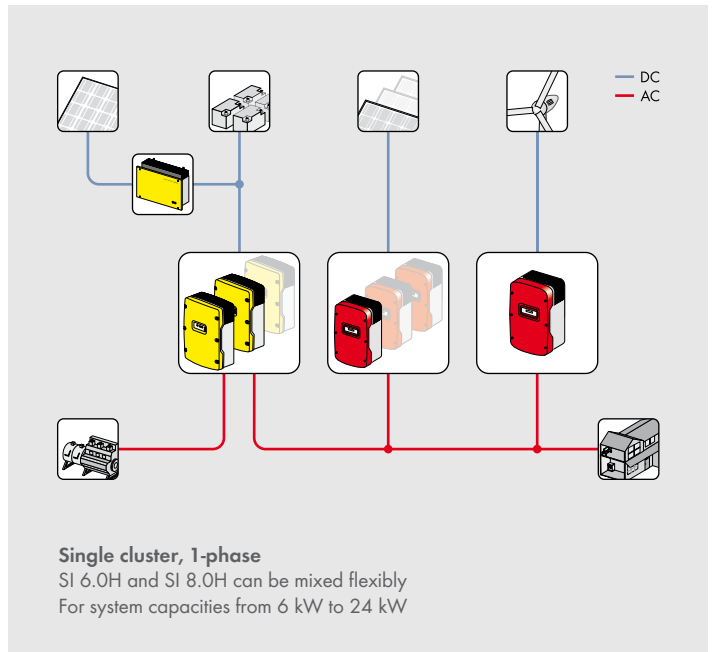
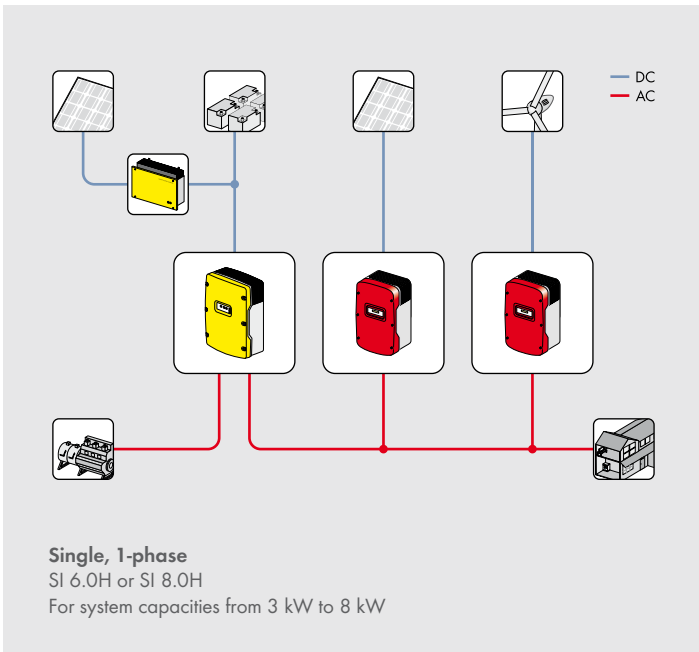
In the single-cluster system, up to three Sunny Island units are connected to the battery. You can combine both Sunny Island power classes as required, which

allows you to achieve precision power levels. Systems from 6 to 24 kilowatts can be assembled as required, with one or three phases. You can then operate the entire cluster using the Sunny Remote Control, which is connected to the master device. A simple, reliable and cost-effective solution for farms, remote huts, lodges or workshops which cannot access the power distribution grid.

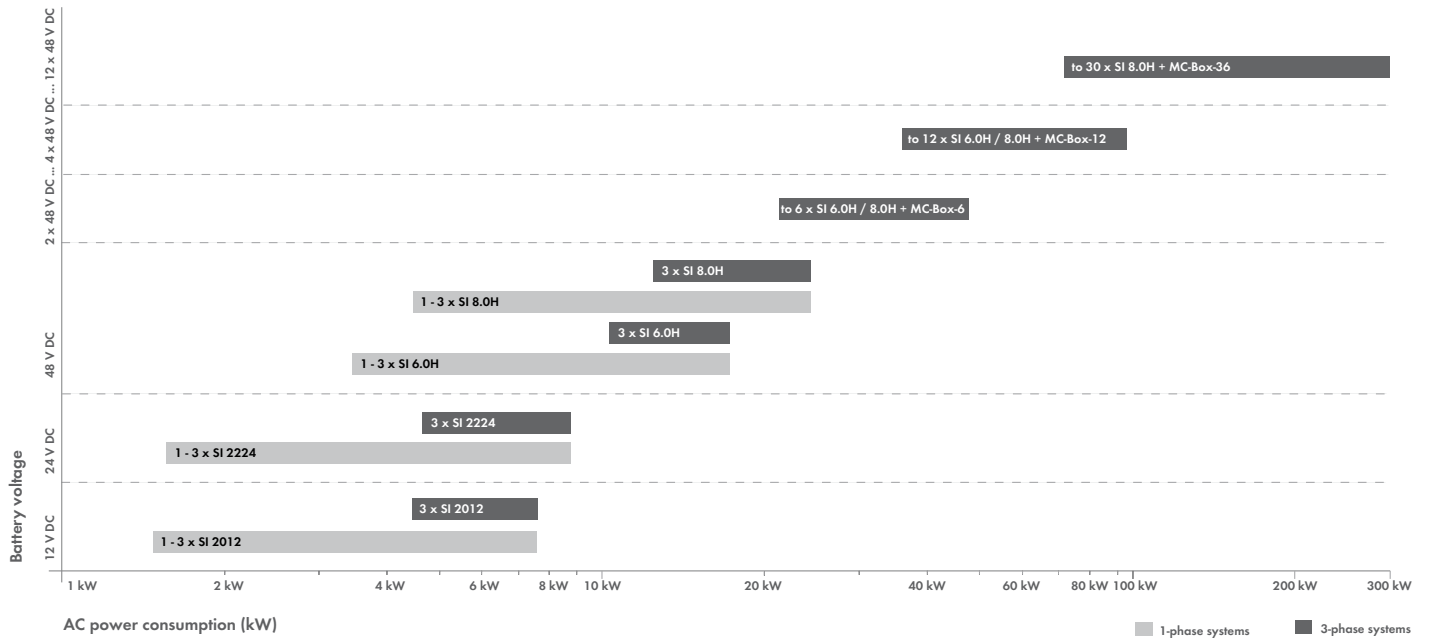
### **For very large plants**

The multicluster system facilitates plant sizes from 24 to 300 kilowatts. Per cluster, you can connect three devices of the same type to the battery. You can combine up to twelve of these clusters in one Multicluster Box. This fully pre-configured AC distribution board makes it much easier to assem-

ble and expand large off-grid and hybrid systems. It guarantees a stable and powerful energy supply for hotels or industrial companies, as well as for entire islands and villages with a weak power distribution grid structure or none at all. If one device or cluster fails, the entire system does not deactivate automatically, allowing the electricity supply to be maintained.



**DC voltage and power range of Sunny Island products**



# Technical Data

Technical data	Sunny Island 6.0H	Sunny Island 8.0H
<b>AC output (loads / stand-alone grid)</b>		
Rated grid voltage / AC voltage range	230 V / 202 V ... 253 V	230 V / 202 V ... 253 V
Rated frequency / frequency range (adjustable)	50 Hz / 45 Hz ... 65 Hz	50 Hz / 45 Hz ... 65 Hz
Rated power (for Unom / fnom / 25 °C / cos φ = 1)	4600 W	6 000 W
AC power at 25 °C for 30 min / 5 min / 3 sec	6 000 W / 6 800 W / 11 000 W	8 000 W / 9 100 W / 11 000 W
Rated current / maximum output current (peak)	20 A / 120 A	26 A / 120 A
Total harmonic factor output voltage / power factor with rated power	< 4 % / -1 ... +1	< 4 % / -1 ... +1
<b>AC input (PV array, grid or MC box)</b>		
Rated input voltage / AC input voltage range	230 V / 172.5 V ... 264.5 V	230 V / 172.5 V ... 264.5 V
Rated input frequency / allowable input frequency range	50 Hz / 40 Hz ... 70 Hz	50 Hz / 40 Hz ... 70 Hz
Maximum AC input current	50 A	50 A
Maximum AC input power	11 500 W	11 500 W
<b>Battery DC input</b>		
Rated input voltage / DC voltage range	48 V / 41 V ... 63 V	48 V / 41 V ... 63 V
Maximum battery charging current	110 A	140 A
Rated DC charging current / DC discharging current	90 A / 103 A	115 A / 136 A
Battery type / battery capacity (range)	FLA, VRLA / 100 Ah ... 10 000 Ah	FLA, VRLA / 100 Ah ... 10 000 Ah
Charge control	IUoU charge procedure with automatic full charge and equalization charge.	IUoU charge procedure with automatic full charge and equalization charge
<b>Efficiency / self-consumption</b>		
Maximum efficiency	95 %	95 %
Self-consumption without load / standby	< 26 W / < 4 W	< 26 W / < 4 W
<b>Protective devices (equipment)</b>		
AC short-circuit / AC overload	● / ●	● / ●
DC reverse polarity protection / DC fuse	- / -	- / -
Overtemperature / battery deep discharge	● / ●	● / ●
Overvoltage category as per IEC 60664-1	III	III
<b>General data</b>		
Dimensions (width x height x depth)	467 mm x 612 mm x 242 mm	467 mm x 612 mm x 242 mm
Priority	63 kg	63 kg
Operating temperature range	-25 °C ... +60 °C	-25 °C ... +60 °C
Protection class (according to IEC 62103)	I	I
Climatic category according to IEC 60721	3K6	3K6
Degree of protection according to IEC 60529	IP54	IP54
<b>Features / function</b>		
Operation and display / multifunction relay	External via SRC-20 / 2	External via SRC-20 / 2
Three-phase systems / parallel connection	● / ●	● / ●
Integrated bypass / multicluster operation	- / ●	- / ●
State of charge calculation / full charge / equalization charge	● / ● / ●	● / ● / ●
Integrated soft start / generator support	● / ●	● / ●
Battery temperature sensor / data cables	● / ●	● / ●
Certificates and approvals	www.SMA-Solar.com	www.SMA-Solar.com
Warranty: 5 years	●	●
<b>Accessory</b>		
Battery cable / battery fuse	○ / ○	○ / ○
Interface SI-COMSMA (RS485) / SI-SYSCAN (Multicluster)	○ / ○	○ / ○
Extended generator start "GenMan"	○	○
Load-shedding contactor / battery current measurement	○ / ○	○ / ○
Type designation	SI6.0H-11	SI8.0H-11
● Standard features ○ Optional features – Not available		
Data at nominal conditions – provisional data, as of March 2013		

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**SMA Solar Technology AG**  
**Sonnenallee 1**  
**34266 Niestetal**  
**Germany**  
**Tel.: +49 561 9522-0**  
**Fax: +49 561 9522-100**  
**E-mail: Info@SMA.de**  
**www.SMA-Solar.com**

