SUNNY ISLAND 4.4M / 6.0H / 8.0H

The all-rounder for high-performance stand alone and self-consumption on-grid solutions

SMA Sunny Island

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The **SMA Sunny Island 4.4M / 6.0H / 8.0H** supports a wide range of **on-grid and off-grid applications** in the 3 to 25 kW range - from operation in remote off-grid areas to home energy management.

Furthermore, being a core element in the **SMA Flexible Storage System** for new and existing PV systems, it stores generated solar power and works with the **Sunny Home Manager** to manage home and commercial energy consumption intelligently.

Its high protection class, wide temperature range and exceptional overload capacity provide the kind of reliability needed for off-grid use. Intelligent load and energy management keeps the system running even in critical situations.

Flexible

The **SMA Sunny Island** offers flexibility in terms of combination with other equipment, which means that the system can be configured precisely to meet the applicable power requirements.

- Choice of battery: The Sunny Island is compatible with many well-known brands of lithium-ion battery and all lead-acid batteries.
- Can be retrofitted for single- and three-phase systems
- Increase system size at any time with SMA multicluster technology

Intelligent

In the **SMA Smart Home**, the **Sunny Home Manager**, with the **SMA Sunny Island**, takes control of intelligent management between the PV system, appliances and storage systems as well as regulates all energy flows.

- Comprehensive visualization in the Sunny Portal
- Forecast-based charging
- Simple planning using planning guidelines and Sunny Design

Robust

The **SMA Sunny Island** is impervious to fine desert sand, high humidity in rainforests and salty mist in coastal regions as well as significant temperature fluctuations. It runs reliably under the most extreme conditions—without compromising its efficiency.

- Outdoor installation possible thanks to IP 54
- Wide temperature range
- Can switch any appliance on

SPECIFICATIONS

	Sunny Island 4.4 M	Sunny Island 6.0 H	Sunny Island 8.0H
AC Input (Grid or generator)			
Voltage		230 Vac (172,5 to 264,5 Vac)	
Frequency		40 Hz (40 to 70 Hz)	
Maximum AC current for increased self-consumption	14,5 A	20 A	26 A
Maximum AC power for increased self-consumption	3,3 kVA	4,6 kVA	6 kVA
Maximum AC input current	50 A	50 A	50 A
Maximum AC input power	11500 W	11500 W	11500W
AC Input (Stand-alone or emergency power operation)			
Voltage		230 Vac (202 to 253 Vac)	
Frequency		50 Hz (45 to 65 Hz)	
Rated grid voltage / AC voltage range	14,5 / 60 A	20 / 120 A	20 / 120 A
Rated power (Unom/fnom/25 °C/cos φ=1)	3300 W	4600 W	6000 W
AC power at 25°C for 30 min / 5 min / 3 s	4400 / 4600 / 5500 W	6000 / 6800 / 11000 W	8000 / 9100 / 11000 W
AC power at 45°C permanently	3000 W	3700 W	5430 W
THD / power factor at rated power	< 5% / -1 to 1	< 1,5% / -1 to 1	
Battery DC input			
Voltage	48 V (41 to 63 V)	48 V (41 to 63 V)	48 V (41 to 63 V)
Maximum charging / rated / discharging current	75 / 63 / 75 A	110 / 90 / 103 A	140 / 115 / 130 A
Battery type		Li-Ion*, FLA, VRLA	
Battery capacity		100 Ah a 10000 Ah (plomo) 50 Ah a 10000 Ah (Li-ion)	
Charge control	IUoU charge procedure with automatic full charge and equalization charge		
Efficiency / self-consumption of the device			
Maximum efficiency	95,5 %	95,8 %	
No-load consumption / standby	18 / 6,8 W	25,8 W / 6,5 W	
Protections			

AC short-circuit	Yes	Yes	Yes
AC overload	Yes	Yes	Yes
DC reverse polarity protection	No	No	No
DC fuse	No	No	No
Overtemperatures	Yes	Yes	Yes
Battery deep discharge	Yes	Yes	Yes
Overvoltage category as per IEC 60664-1	III	III	III
General Data			
Dimensions (w x h x d)	467 x 612 x 242 mm		
Weight	44 Kg	63 Kg	
Operating temperature range	-25° C to 60° C		
Protection class as per IEC 62103	I		
Climatic category as per IEC 60721	3K6		
Degree of protection as per IEC 60529	IP54		
Features / function			
Three-phase systems	Yes	Yes	Yes
Battery backup function	Yes	Yes	Yes
State of charge calculation / full charge / equalization charge	Yes	Yes	Yes
Battery temperature sensor	Yes	Yes	Yes
Data cables	Yes	Yes	Yes
Warranty	5 years		
Features / function for off-grid applications			
Automatic rotating magnetic field detection	Yes	Yes	Yes
Generator support	Yes	Yes	Yes
Parallel connection	Yes	Yes	Yes
Multicluster	Yes	Yes	Yes
Integrated soft start	Yes	Yes	Yes
Accesories for off-grid applications			
Battery fuse **	Optional		
Interface SI-COMSMA (RS485)	Optional		
Interface SI-SYSCAN (Multicluster)	Optional		
Interface SWDMSI-NR (Speedwire)	Optional		
Sunny Island Charger SIC50-MPT**	Optional		
Cluster controller	Optional		
Accesories for on-grid applications (self-consumption)			
Interface SI-COMSMA (RS485)	Optional		
Interface SWDMSI-NR (Speedwire)	Optional		
Sunny Home Manager	Optional		
SMA Energy Meter	Optional		
Automatic transfer switch for battery backup**	Optional		

* See List of Approved Lithium-Ion Batteries.

** Procurement via external supplier.

ACCESORIES

Speedwire data module / Modbus TCP

For smooth communication: Speedwire can be used to access PV systems via Sunny Explorer. Device configuration and parameter checks are easy and convenient. In addition, with Modbus all parameters can be viewed remotely or set automatically. And setpoints can be entered for direct control of Sunny Island output.

Load-shedding protection

Load-shedding protection for use in AC-coupled off-grid systems: disconnecting loads during power overloads allows the batteries to recharge – e.g. from the PV plant. To ensure that the protection doesn't drop out due to a short circuit, only DC contactors that are supplied by the battery are used.

For all available Sunny Island we offer a 3-pole load-shedding contactor with 100 A nominal current with 48 V DC coil

Compatible versions are available for all Sunny Island models.

RS485 Piggy-Back. Plant monitoring and communication

The RS485 wiring for plant monitoring and communication allows functional lengths of up to 1200 meters. The Sunny WebBox collects all the data and informs you about the status of the PV plant. With Piggy-Back the data transmission is reliable even in interference-prone areas. Subsequent expansions are possible without problem thanks to the modular design principle.

Multicluster Piggy-Back

For communication in Multicluster systems, one Piggy-Back is required per cluster. The Piggy-Backs are also equipped with an RS 485 interface for the SMA Monitoring Bus. Scope of delivery includes data cable for indoor use.

Compatible with Sunny Island 5048.

Sunny Island Charger Piggy-Back

SIC-Piggy-Back for a smooth communication between Sunny Island Charger and Sunny Island via the sync bus of the Sunny Islands.

Adapter cable

Adapter cable for using the RS485-communication between Sunny Island and Sunny WebBox.

Battery fuse boxes (BatFuse B.01 and B.03)

External DC distributor for all-pole battery fuse protection. Both types are suitable for currents from 63 to 250 A and feature an NH fuse-switch disconnector for simple activation of the Sunny Island. BatFuse B.01 provides one connection for Sunny Island and three DC connections on the battery side. BatFuse B.03 features three connections for Sunny Island and six DC connections on the battery side. Both types also have an 8A auxilliary supply output from the battery.

Compatible with all Sunny Island models.

Battery cable sets

Cables for the DC connection between the battery, BatFuse and Sunny Island - or the direct connection between the battery and inverter. The double insulation enables ground-fault-proof and short-circuit-proof installation. Approved for cable temperatures up to 90°C.

- 70 mm² for Sunny Island 4.4M / 6.0H and 8.0H in 3 and 6 meters long

SHUNT

Measuring shunts for battery current detection. Suitable for use with generators or loads that cannot be measured by the Sunny Island. Battery shunts are available for maximum DC currents of 200 and 600 A.

Compatible with Sunny Island 4.4M / 6.0H and 8.0H.

Replacement battery temperature sensor

Replacement battery temperature sensor tyep KTY with 10 m connection cale for Sunny Island.

DOWNLOADS

SUNNY ISLAND, LI-ION APPROVED BATTERIES

SI-LiIon-TI-en-45.pdf Size: 425.26 KiB

SI44M_60H_80H-DEN1931-V20.pdf Size: 536.35 KiB

SMA MULTICLUSTER 12 FOR SUNNY ISLAND

SMA Multicluster 12 EN.pdf Size: 287.46 KiB