



/ SI30-20 / SI50-20



powered by
ennexOS

Sunny Island X

Next generation SMA battery inverter
– more powerful than ever

/ Compatible with many approved third-party batteries

Benefits at a Glance

- Nominal output, even at high temperatures (45 °C)
- Modular scalability for on- and off-grid installations
- Compatible with a wide range of premium battery manufacturers
- Flexible use of generators or the utility grid in off-grid or back-up applications
- Designed and manufactured in Germany
- 10-year warranty (5 + 5*)¹⁾
- Integrated energy management in on-grid installations with or without battery backup
- Compatible with external Modbus system control
- Advanced training available for project planning, installation and commissioning

Industry-Leading Cybersecurity

- Integrated access control with mandatory password use, SMA ID login, and automatic updates
- ISO 27001-certified cloud via Sunny Portal powered by ennexOS
- Fully compliant with EU regulations and leading safety standards

The Sunny Island X battery inverter supports a wide range of on- and off-grid installations with compelling features – from operation in off-grid areas to the utility grid.

As a central element of your system, it ensures that self-generated solar energy can be stored and made available at all times. The Sunny Portal powered by ennexOS interface enables users to visualize current energy flows between components and monitor system performance data.

Sunny Island X ensures the required system flexibility and reliability. The broad temperature range ensures, for example, that Sunny Island X can operate even under the most extreme conditions – desert heat, tropical humidity or snowy conditions are never a problem for Sunny Island X. Intelligent load and energy management keeps the system running, even in critical situations. Sunny Island X is a highly robust battery inverter – and comes with a warranty of up to 10 years¹⁾.

¹⁾ Device registration via the SMA product-registration homepage (my.sma-service.com)

Sunny Island X Systems

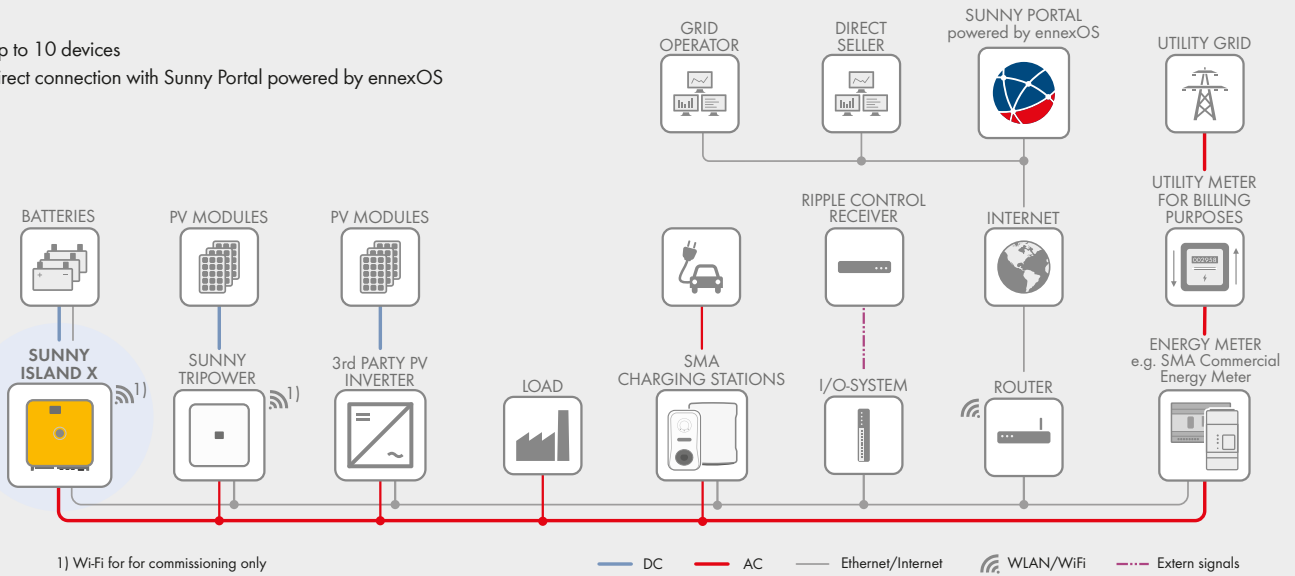
Sunny Island X is a highly flexible inverter that supports a wide range of system configurations.

With the integrated System Manager, you can set up pure grid-parallel applications without battery backup power for up to 11 devices in a single system. For up to 50 devices in a single system, use the additional Data Manager M. Both system configurations offer flexible energy management for commercial applications using SMA Energy Planner or the cloud-based optimization tool SMA Maximizer. The SMA Backup Box¹⁾ is available as an accessory for turnkey off-grid and backup systems up to 300 kW. The Data Manager M is integrated into the automatic transfer switching device, which provides intelligent energy management, automatic switching between the utility grid, generator, and off-grid modes, as well as comprehensive system monitoring and visualization via the Sunny Portal powered by ennexOS.

For industrial projects with powers above 300 kW, the Sunny Island X Connection Box is the scalable solution. It integrates the SMA Hybrid Controller for centralized system control and energy flow optimization, as well as the SMA Data Manager M for comprehensive visualization and monitoring of the system via Sunny Portal powered by ennexOS.

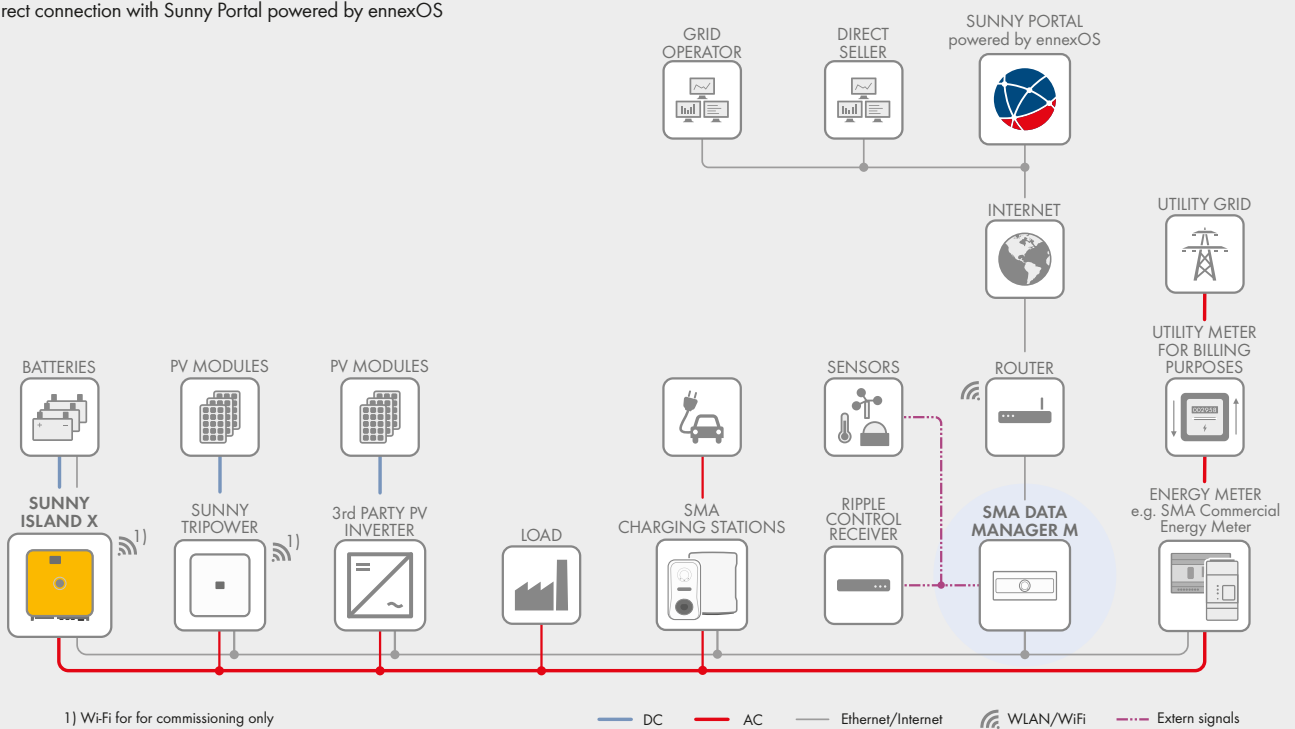
On-grid system without battery backup via SUNNY ISLAND X as System Manager

- Up to 10 devices
- Direct connection with Sunny Portal powered by ennexOS

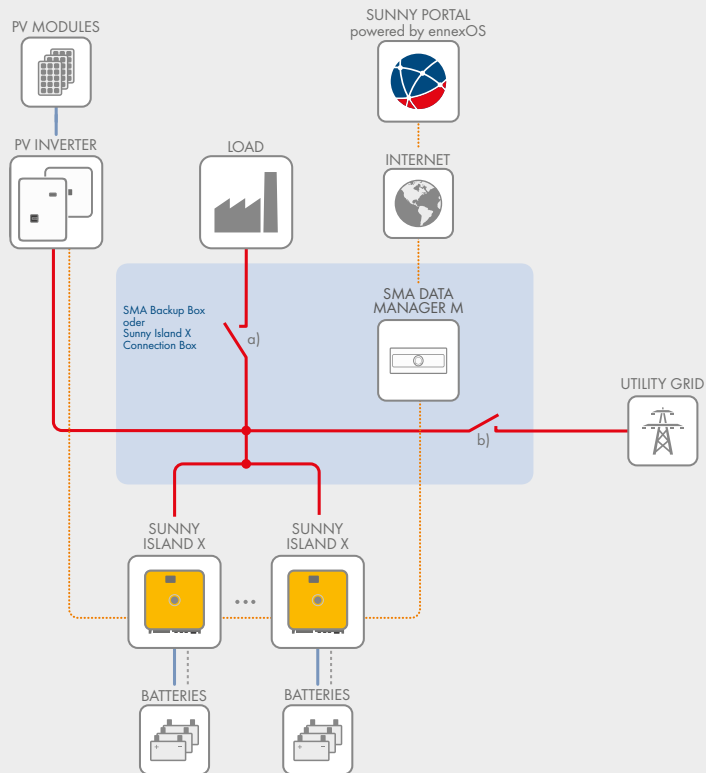


On-grid system without battery backup via Data Manager M as System Manager

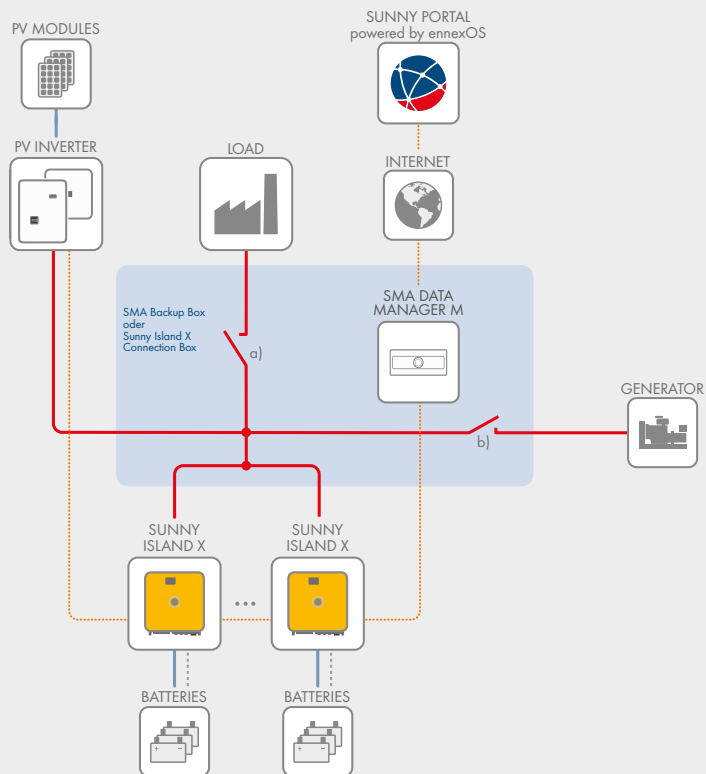
- Up to 50 devices
- Direct connection with Sunny Portal powered by ennexOS



Battery-backup system with Sunny Island X

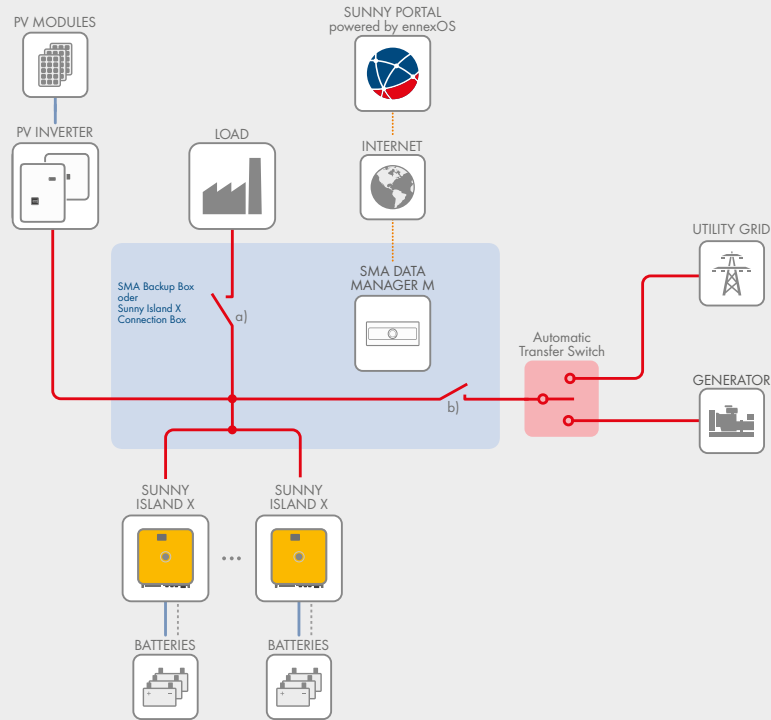


Off-grid system with Sunny Island X and emergency power generator

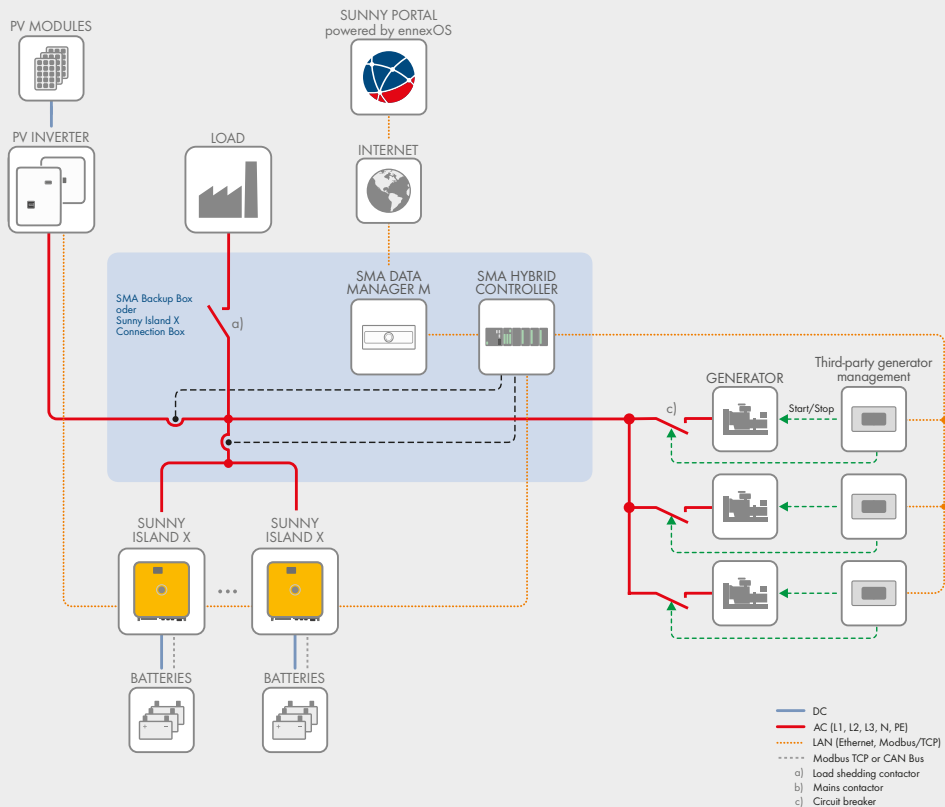


- DC
- AC (L1, L2, L3, N, PE)
- LAN (Ethernet, Modbus/TCP)
- Modbus TCP or CAN Bus
- a) Load shedding contactor
- b) Mains contactor

Battery-backup system with Sunny Island X and additional emergency power generator²⁾



Off-grid system with Sunny Island X and multiple emergency power generators (only systems of 300 kW or more)



1) Material number: AC-BOX-2X50-10, AC-BOX-6X50-10

2) Depending on the automatic transfer switching device, the automatic transfer switching device must be provided on-site. It is not available directly from SMA as an accessory.

Technical Data	Sunny Island X 30	Sunny Island X 50
DC Connection for Battery		
Max. DC power	30,600 W	51,000 W
DC voltage range (at 400 V _{AC})	200 V to 980 V	
DC voltage range at nominal power	200 V to 980 V	350 V to 980 V
Max. usable input current (I _{DC, max})	150 A	
Battery type	Li-ion or sodium-ion (communication via Modbus TCP or CAN bus)	
AC Terminal (input/output)		
Rated power at nominal voltage	30,000 W	50,000 W
Max. AC apparent power	30,000 VA	50,000 VA
Max. reactive power	30,000 var	50,000 var
Rated current (per line conductor for 1 sec)	43.3 A	72.2 A
Max. current (per line conductor)	60.6 A	101 A
Overload capability for 30 min / 3 sec	31 kW / 36 kW	52 kW / 60 kW
Nominal AC voltage	400 V ³⁾	
AC voltage range	187 V to 528 V	
Rated grid frequency	50 Hz / 60 Hz	
Power frequency range	44 Hz to 66 Hz	
Power factor at rated power / adjustable displacement power factor	1 / 0 overexcited to 0 underexcited	
Unbalanced load capability / connection lines / grid configuration	100% / 5 (L1, L2, L3, N, grounding conductor) / Yn	
Efficiency		
Max. efficiency / European efficiency Efficiency	98.0% / 97.6%	98.0% / 97.2%
Protective Devices		
Grid monitoring	●	
Overtemperature / battery deep discharge	● / ●	
AC short-circuit current capability / galvanically isolated	● / -	
All-pole-sensitive residual current monitoring unit	●	
Protection class (according to IEC 62109-1)	I	
Overvoltage category (according to IEC 60664-1)	DC: II, AC: III	
Surge protection device / surge arrester in accordance with IEC 61643-11	AC: type 2 / class II	
General Data		
Dimensions (W / H / D)	772 / 837.3 / 443.8 mm (30.4 / 33 / 17.5 inch)	
Weight	104 kg (229 lb)	
Operating temperature range	-25 °C to +60 °C (-13 °F to +140 °F) with derating from 45 °C	
Noise emission, typical	69 dB (A)	
Standby	25 W	
Topology / cooling concept	Three-phase / active	
Degree of protection (according to IEC 60529 / UL 50E)	IP65 / NEMA 4X	
Climate category (according to IEC 60721-3-4)	4K4 / 4Z4 / 4S2 / 4M3 / 4C2 / 4B2	
Maximum permissible value for relative humidity (non-condensing)	95%	
Features / Functions / Accessories		
Modbus TCP / Speedwire / Wi-Fi	● / ● / ●	
LED display (status / error / communication)	● / ● / ●	
LCD	○	
Web user interface / Wi-Fi ²⁾	● / ●	
System monitoring	Sunny Portal powered by ennexOS	
Compatible energy meters for on-grid and battery backup applications	600 A (COM-EMETER-A-20) / 200 A (COM-EMETER-B-20) / Janitza UMG604	
Warranty 5/10 years	● / ● ⁵⁾	
Cybersecurity	EU-RED Cybersecurity Directive (EN 18031-1), ETSI EN 303 645, Speedwire Encrypted Communication (SEC), EU-based data hosting (ISO 27001), EU NIS2 Directive, automatic updates	
Automatic Transfer Switching Devices		
Backup Boxes with SMA Data Manager M	SMA Backup 100 for 2x SI-X (AC-BOX-2X50-10) SMA Backup 300 for 6x SI-X (AC-BOX-6X50-10)	
Sunny Island X Connection Box with SMA Hybrid Controller (available only through third-party suppliers)	Available in two sizes: for 10x SI-X and for 16x SI-X	
System Manager features for on-grid applications only (without backup function)		
Total number of supported devices with Sunny Island X as System Manager ¹⁾	11	
Total number of supported devices when an SMA Data Manager M (EDMM-20) is the System Manager ¹⁾	50	
On-grid energy management functions (with integrated System Manager or EDMM-20) ⁴⁾	Increased self-consumption, peak load shaving, multiuse, Time of Use Energy Planner, Energy Maximizer	
Centralized commissioning of all devices in the system	●	
Remote parameterization of SMA devices with Sunny Portal powered by ennexOS	●	
Additional generator integration in backup operation: optional (via external ATS)	●	
SOC (state of charge) balancing	●	
SMA energy management (Energy Planner, Energy Maximizer)	●	

Technical Data	Sunny Island X 30	Sunny Island X 50
Data Manager functions (integrated in SMA Backup Box)		
Black start		●
Automatic backup operation		●
Operation of PV inverters in backup operation		●
Synchronization with an external AC source (utility grid or generator)		●
Diesel generator management		●
Additional generator integration in backup operation: optional (via external ATS)		●
SOC (state of charge) balancing		●
SMA energy management (Energy Planner, Energy Maximizer)		●
Hybrid Controller functions (integrated in Sunny Island X Connection Box)		
Support of Sunny Island X		●
Black start		●
Diesel-off mode (frequency and voltage control)		●
Active and reactive power control (PV and battery)		●
SOC (state of charge) balancing		●
Diesel generator management		●
On-grid energy management (increased self-consumption, peak load shaving)		●
Synchronization with external AC sources (utility grid or generator)		●
Type designation	SI30-20	SI50-20

● Standard equipment ○ Optional – Not available Data at nominal conditions Last revised: May 2026

1) Supported devices: SMA EV Charger Business (only monitoring), SMA PV inverter, Sunny Island X, Energy Meter and other Modbus devices

2) For commissioning only

3) The AC output voltage can be adjusted (selectable: 208 V, 415 V, and 480 V).

4) All on-grid energy management functions are integrated into systems with an SMA Backup Box.

5) Device registration via the SMA product registration homepage (my.sma-service.com). The conditions of the SMA limited factory warranty apply. You can find additional information at SMA-solar.com

Please note that for industrial projects using the SMA Hybrid Controller, a customized quote must be provided for each specific project. Please contact us for this at API team at sunnyisland@sma.de.