/ 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 of AC power and battery capacity in on- and off-grid installations
- Compatible with a wide range premium battery manufacturers thanks to the integrated DC-to-DC converter
- Flexible use of generators or the utility grid in off-grid installations using Sunny Island X Connection Box[1)]
- Designed and manufactured in Germany
- Integrated energy management in on-grid installations without battery backup
- Compatible with SMA Hybrid Controller or other Modbus system controllers
- Advanced training available for project planning, installation and commissioning

Industry-leading cybersecurity

- Built-in access control with enforced passwords, limited interfaces, SMA ID login & auto updates
- ISO 27001-certified cloud via Sunny Portal powered by ennexOS
- Fully compliant with EU regulations and leading security standards

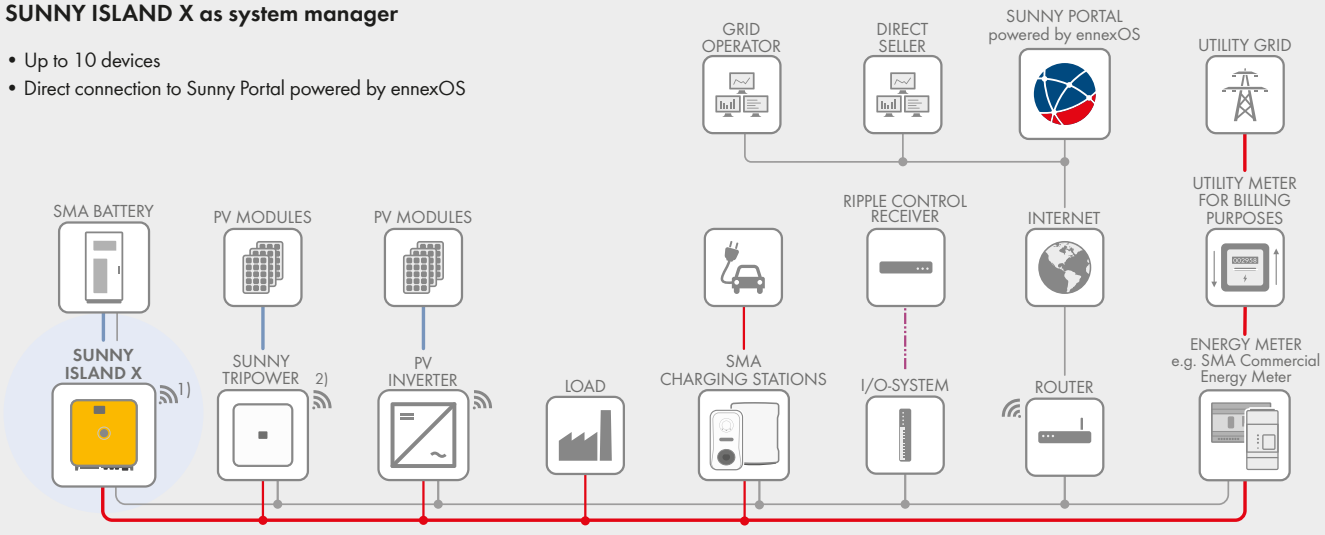
Whether in off-grid areas or connected to the utility grid, the highly versatile Sunny Island X battery inverter supports a wide range of on-grid and off-grid installations.

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.
The Sunny Island X ensures the required system flexibility and reliability. The broad temperature range ensures, for example, that the 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. The Sunny Island X is a highly robust battery inverter.

1) Sunny Island X Connection Box is an accessory

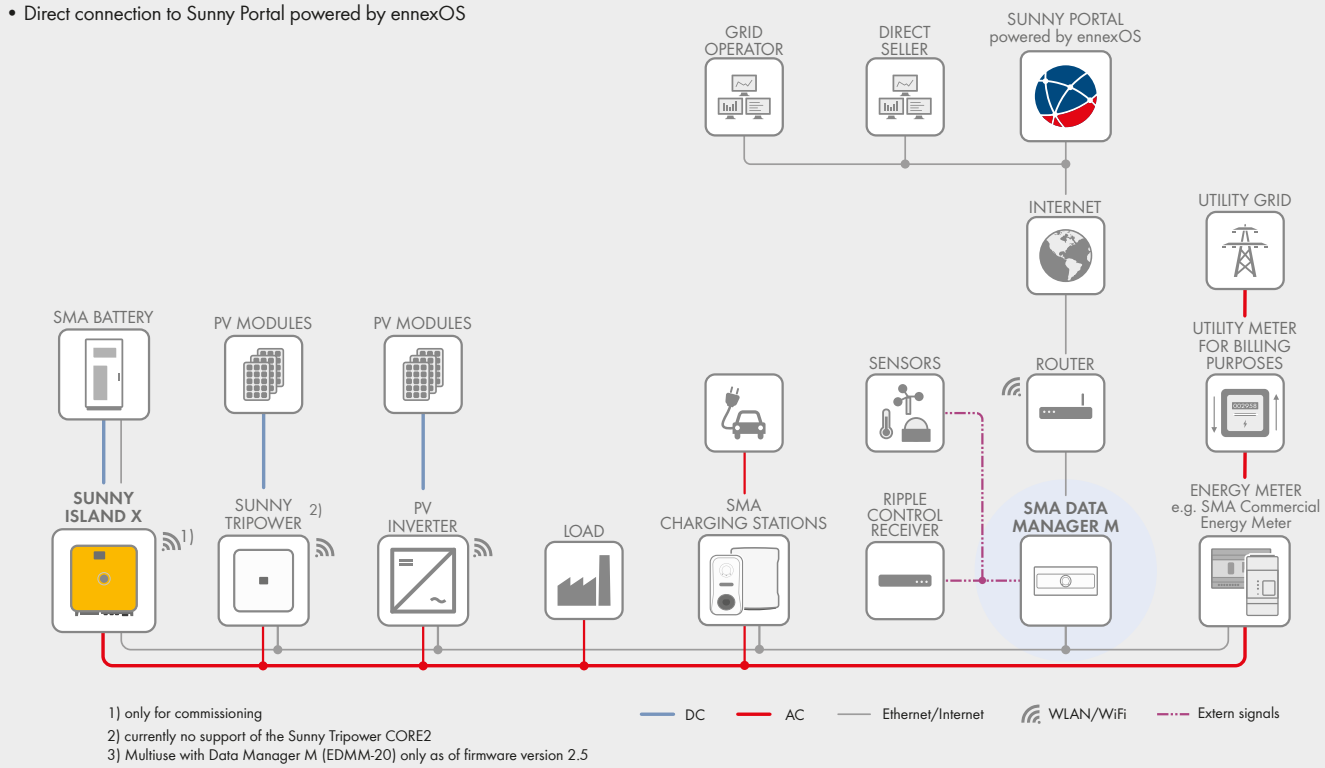
SUNNY ISLAND X as system manager

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



SUNNY ISLAND X with SMA DATA MANAGER M (EDMM-20) as system manager[3)]

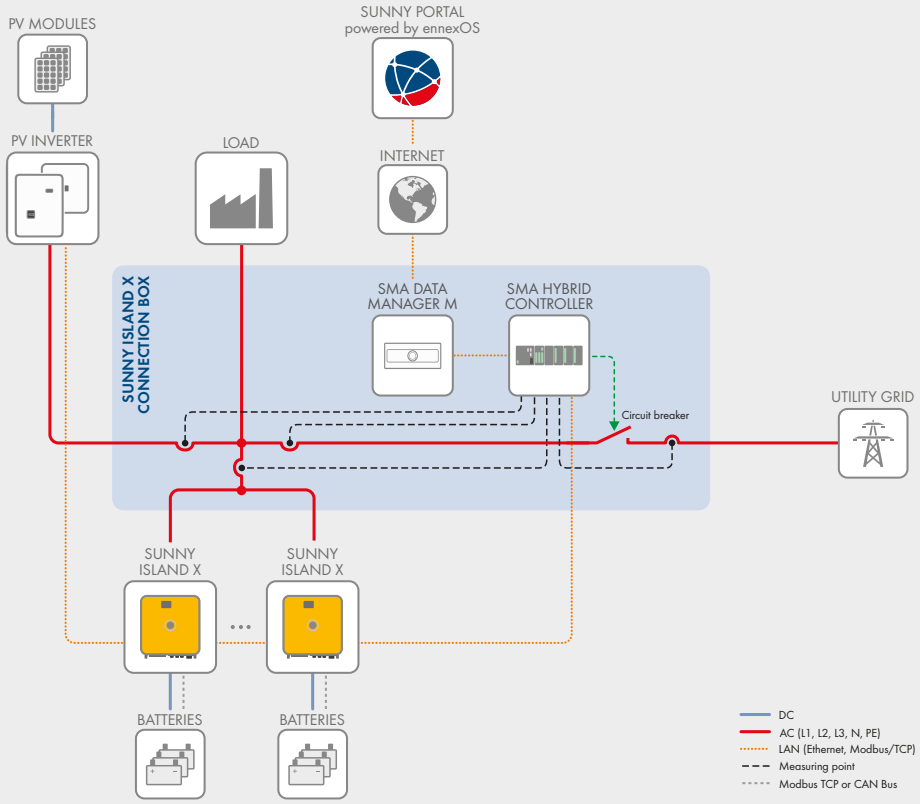
- Up to 50 devices
- Direct connection to Sunny Portal powered by ennexOS



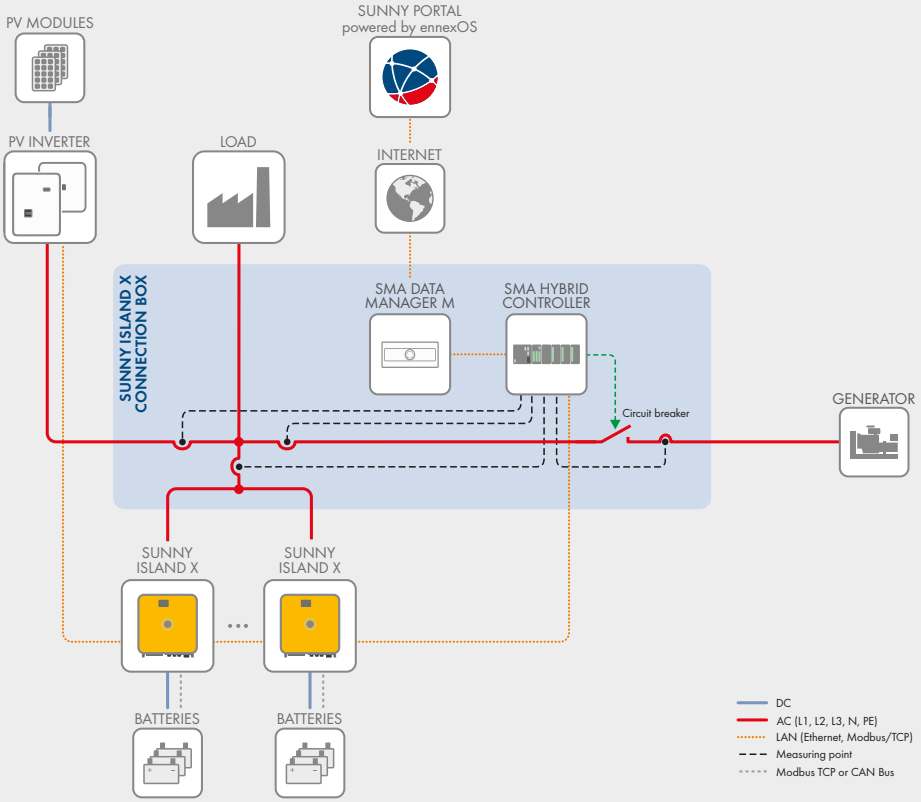
Sunny Island X systems

The Sunny Island X Connection Box is the AC distribution board for off-grid and battery-backup systems, facilitating the connection and management of all system components. The Hybrid Controller is integrated into the Sunny Island X Connection Box, ensuring efficient energy for a variety of system configurations. The Data Manager M-20 is also integrated into the Sunny Island X Connection Box, enabling system visualization via the ennexOS Portal.

Sunny Island X – system with utility grid connection*

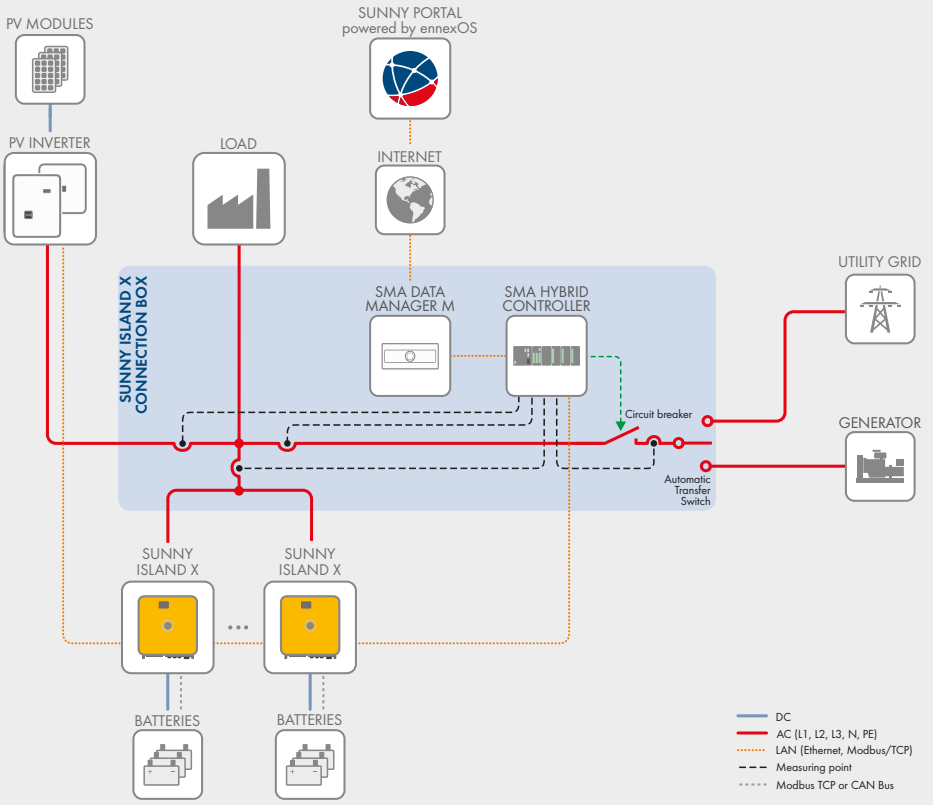


Sunny Island X – system with generator

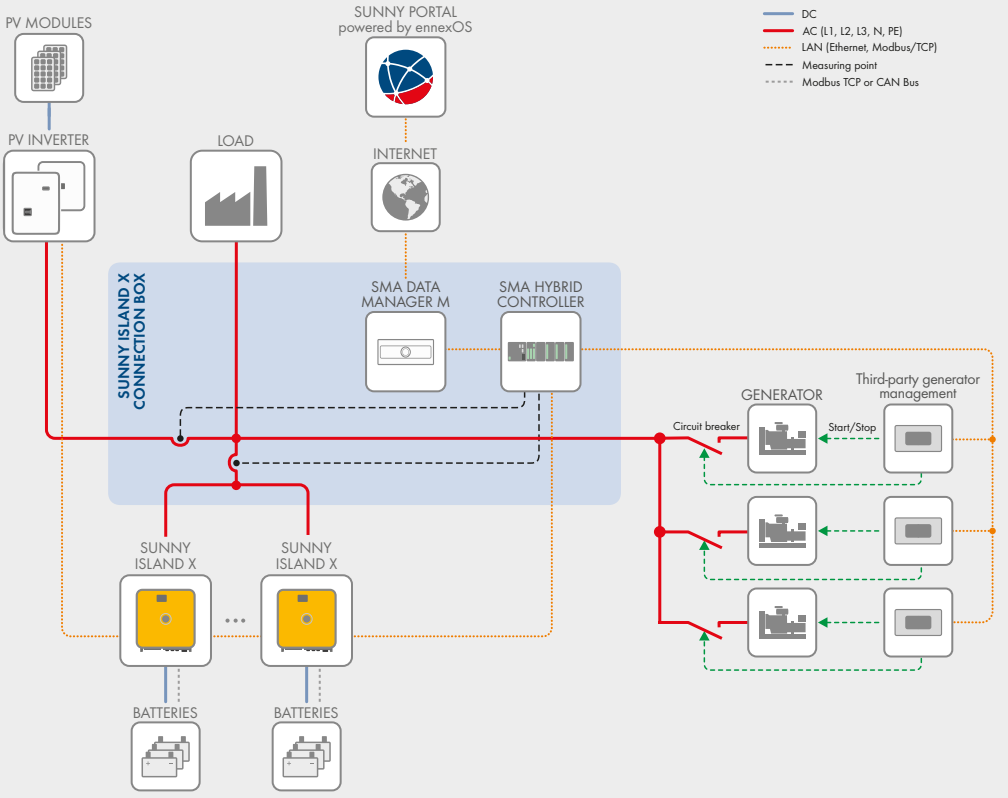


*) Please observe the applicable local grid requirements, as this function may not be supported in your country.

Sunny Island X – system with utility grid* and generator



Sunny Island X – system with multiple generators



*) Please observe the applicable local grid requirements, as this function may not be supported in your country.

Technical Data	Sunny Island X 30	Sunny Island X 50
DC connection for battery		
Max. DC power	30600 W	51000 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	
Initial DC Inrush before Pe-Charge	116 A (for 16 µs)	
DC Inrush after Pre-Charge has been completed	5 A (for 4 ms)	
Battery type	Li-ion or sodium-ion (communication via Modbus TCP or CAN bus)	
AC terminal (input/output)		
Rated power at nominal voltage	30000 W	50,000 W
Max. apparent AC power	30000 VA	50,000 VA
Max. reactive power	30000 var	50000 var
Rated current (per line conductor)	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
Initial AC Inrush before grid connection of the inverter	200 mA (for 0.1 ms)	
AC Inrush at grid connection of the inverter	26 A (for 10 ms)	
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	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/fault/communication)	● / ● / ●	
On-grid energy management functions (with integrated System Manager)	Increased self-consumption, peak load shaving, multiuse	
Web user interface / Wi-Fi [2]	● / ●	
System monitoring	Sunny Portal powered by ennexOS	
LCD display	○	
Warranty 5 years	●	
Sunny Island X Connection Box (third party)	Available in two sizes: for 10x SI-X and for 16x SI-X	
For on-grid applications without battery backup	600 A (COM-EMETER-A-20) / 200 A (COM-EMETER-B-20) / Janitza UMG604	
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	
Hybrid Controller functions (integrated 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)	●	
System Manager features for on-grid applications only		
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 System Manager [1]	50	
Centralized commissioning of all devices in the system	●	
Remote parameterization of SMA devices with Sunny Portal powered by ennexOS	●	
Type designation	SI30-20	SI50-20

● Standard equipment ○ Optional – Not available Data at nominal conditions Last revised: 11/2025

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 (adjustable: 208 V, 415 V and 480 V)

ENERGY
THAT
CHANGES

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