



/ SI27-US208-20 / SI40-US480-20 / SI60-US480-20

preliminary



Sunny Island X

Next generation off-grid battery inverter – more powerful than ever

/ Compatible with approved third-party batteries

powered by
ennexOS

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 growing number of approved batteries thanks to integrated DC-DC converter
- Flexible use of generators or the utility grid in off-grid installations using Sunny Island X Connection Box¹⁾
- Designed and manufactured in Germany with 100% SMA quality standards
- Made in Germany
- 10-year warranty (5 + 5*)²⁾
- Integrated energy management in on-grid installations without battery backup
- Compatible with SMA Hybrid Controller or other Modbus system controllers in off-grid installations
- Comprehensive system monitoring thanks to Sunny Portal powered by ennexOS
- Sunny Design design tool
- Advanced training available for project planning, installation and commissioning

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 installations.

As a central element of your system, it ensures that self-generated solar power can be stored and made available at all times. The Sunny Portal powered by ennexOS interface allows you to visualize all the components in the Sunny Island system and monitor the energy flows.

The Sunny Island X ensures the required system flexibility and reliability. The broad temperature range ensures 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.

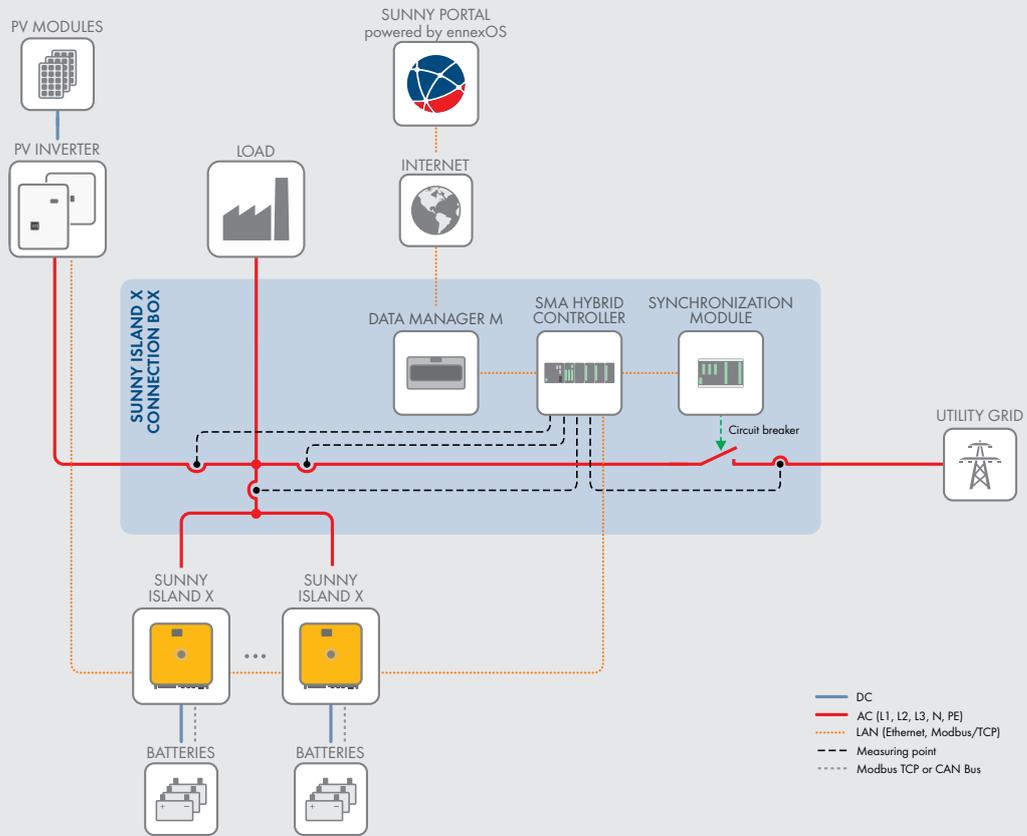
The Sunny Island X is a highly robust battery inverter – and comes with an up to 10-year warranty²⁾.

¹⁾ Sunny Island X Connection Box is an accessory that needs special commissioning training courses
²⁾ Device registration via the SMA product-registration homepage (my.sma-service.com)

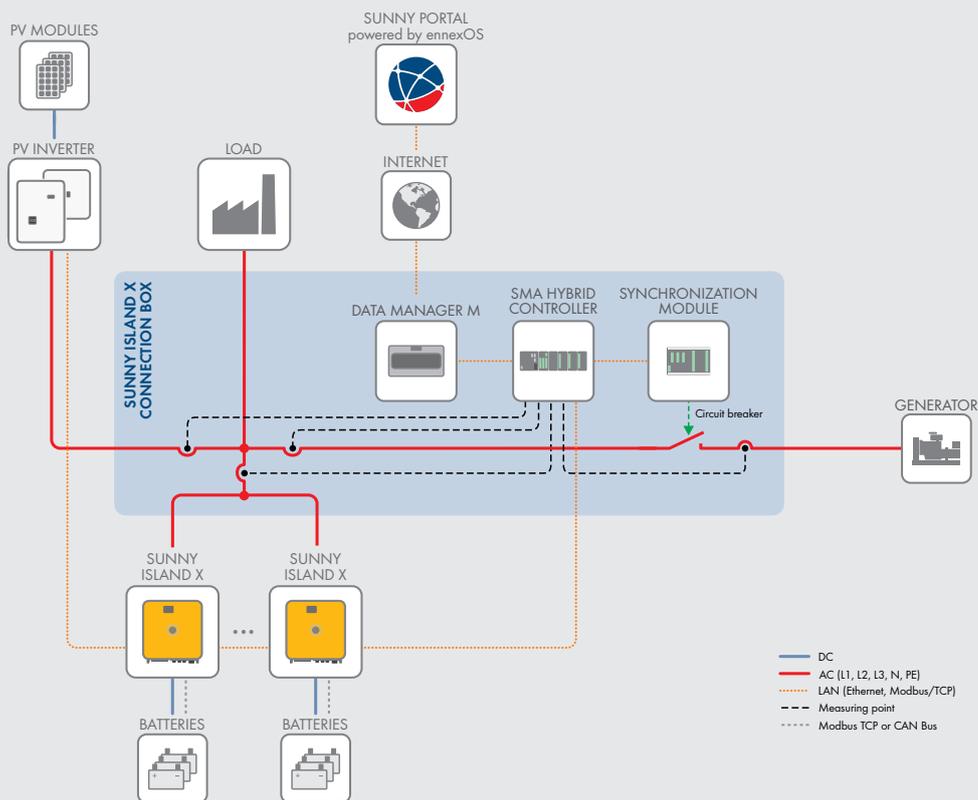
Sunny Island X Systems

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. With the included Hybrid Controller, it can offer different system options with the Sunny Island X. The Hybrid Controller and Data Manager M are pre-installed in the Sunny Island X Connection Box for the energy management of various applications.

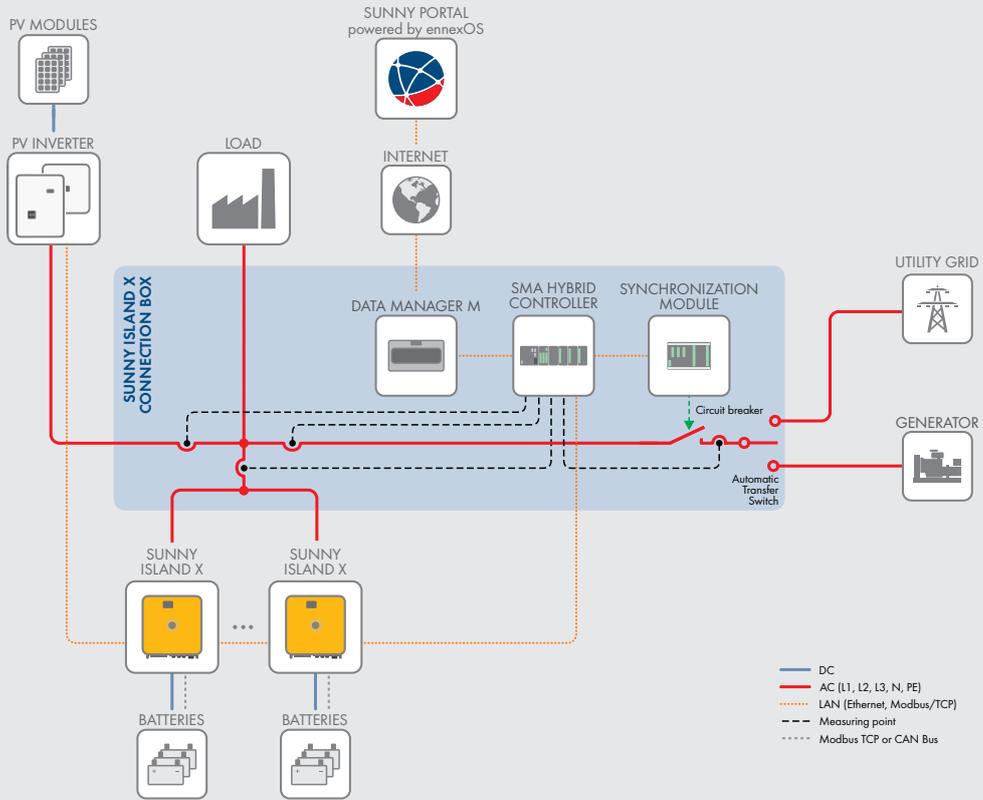
Sunny Island X off-grid system with utility grid connection



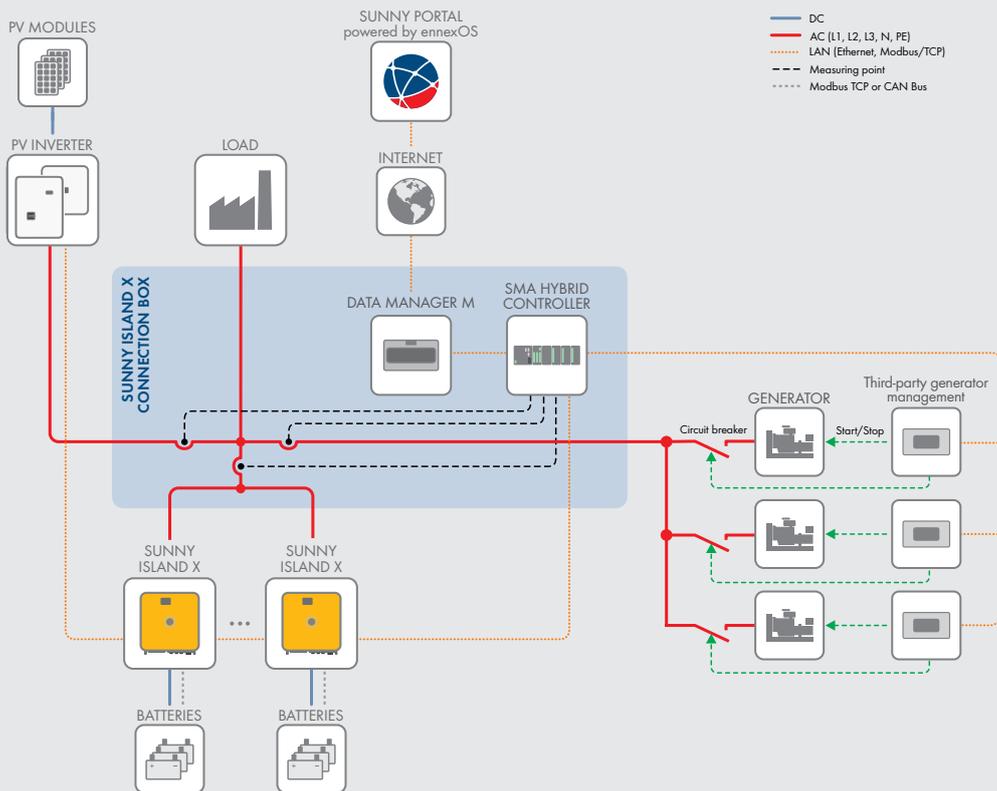
Sunny Island X off-grid system with generator



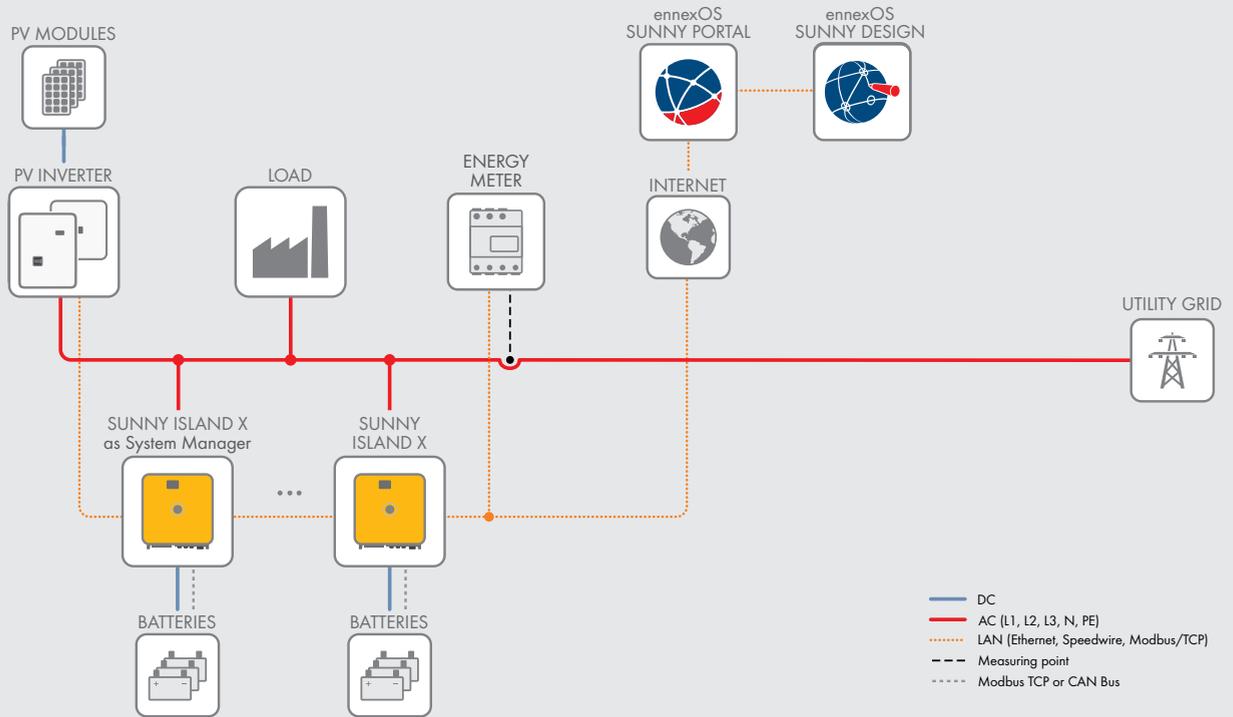
Sunny Island X off-grid system with utility grid and generator



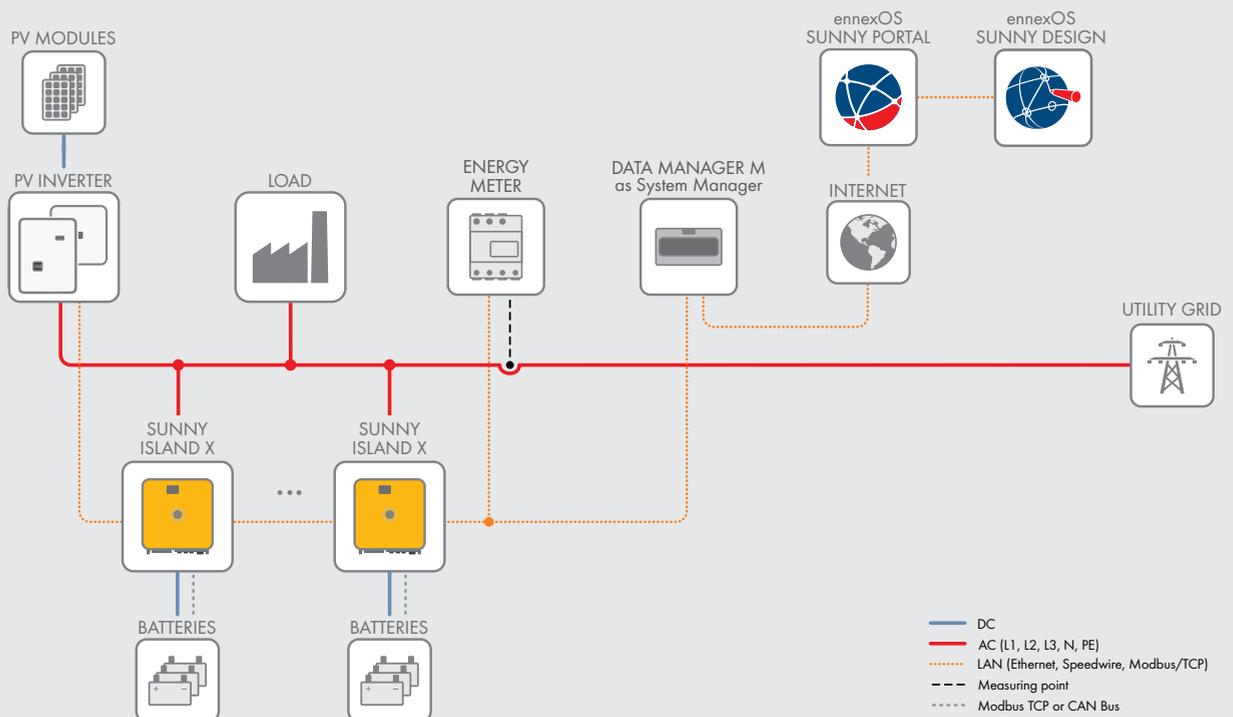
Sunny Island X off-grid system with generator management system



Sunny Island X as SMA System Manager in an on-grid application without battery backup



Sunny Island X in an on-grid application without battery backup with Data Manager as SMA System Manager



Technical data	Sunny Island X 27-US	Sunny Island X 40-US	Sunny Island X 60-US
Battery connection (DC)			
Max. DC power	27600 W	40800 W	61200 W
DC voltage range	200 V to 980 V		
Max. usable input current (at 400 V AC)	150 A		
Battery type	Li-ion (Modbus TCP or CAN bus)		
Grid connection (AC)			
Rated power at nominal voltage	27000 W	40000 W	60000 W
Max. apparent AC power	27000 VA	40000 VA	60000 VA
Max. reactive power	27000 Var	40000 Var	60000 Var
Nominal output current	74.9 A	48.1 A	72.2 A
Overload capability	TBD	TBD	TBD
Nominal AC voltage	208 V	480 V	
AC voltage range	177 V to 480 V		
Rated grid frequency	50 Hz / 60 Hz (by Grid code)		
Power frequency range	44 Hz to 66 Hz		
Total harmonic distortion output voltage	TBD		
Power factor at rated power / adjustable displacement power factor	1 / 0 overexcited to 0 underexcited		
Unbalanced load capability / connection lines	100% / 5		
Connection line conductors	5 (L1, L2, L3, N, PE)		
Efficiency			
Max. efficiency / European efficiency	98.0 % / 97.6 %	98.0 % / 97.4 %	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		
Surge category (according to IEC 60664-1)	AC: 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 consumption	25 W		
Topology / Cooling method /Transformer	Three-phase / Active / Transformerless		
Degree of protection (according to UL 50E)	NEMA 4X		
Climatic classes operation (according to IEC 60721-3-4)	4K4 / 4Z4 / 4S2 / 4M3 / 4C2 / 4B2		
EMC Class	B		
Maximum permissible value for relative humidity (non-condensing)	95%		
Features/functions			
Communication / protocols	SMA Speedwire, Webconnect, Ethernet, WiFi ²⁾ / Modbus (SMA, Sunspec)		
LED display (status/fault/communication)	● / ● / ●		
Energy management functions	Self-consumption optimization, peak load shaving, multi-use, Time of Use Optimization		
Display / Web User Interface / WiFi ²⁾	○ / ●		
Retrofitting with PV inverters from other suppliers	●		
System monitoring	via Sunny Portal powered by ennexOS		
Battery interface	Modbus TCP or CAN bus		
Warranty	10 years		
System manager function			
Total number of supported devices with Sunny Island X as System Manager 1)	up to 11		
Total number of supported devices with SMA Data Manager M as System manager 1)	50		
Centralized commissioning of all devices in the system	●		
Remote parameterization of SMA devices	via Sunny Portal powered by ennexOS		
Accessories			
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	Janitza UMG604		
Type designation	SI27-US208-20	SI40-US480-20	SI60-US480-20

● Standard equipment ○ Optional – Not available Data at nominal conditions Last revised: 11/2024

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

