

X-Gen One-Stop Solution

Prefabricated One-Stop Turnkey Energy Storage Solution

Covering system configuration, key components, application scenarios, and grid-connected topology diagrams.

Core Energy Storage Unit

- X-Gen 261: Includes PCS, battery capacity 261 kWh, rated power 135 kW, suitable for lightweight mobile power.
- X-Gen 522: Includes PCS, battery capacity 522 kWh, rated power 270 kW, suitable for high-capacity power supply, heavy equipment.

Key Components (forming a complete system)

- Array Combiner Cabinet
- Matrix Combiner Cabinet
- STS Cabinet
- Communication Cabinet



Renon Power USA LLC

Renon Power USA LLC. All Rights Reserved. Specifications are subject to change without notice.
2026-5-28



Product Overview

X-GEN is an integrated mobile energy storage system developed by RENON, available in 261 kWh and 522 kWh standard versions. It integrates LFP batteries, bidirectional PCS, DC fast charging, PV MPPT, generator input, and multi-voltage AC output into a trailer-mounted unit. It supports standalone microgrid operation, on-grid parallel connection of up to 6 units, and off-grid operation of up to 5 units with STS, enabling seamless on/off-grid switching within 20 ms.

■ Core Energy Storage Unit



X-Gen 261
P06



X-Gen 522
P07

■ Key Components (forming a complete system)



Array Combiner
P06



Matrix Combiner
P06



STS Cabinet
P07



Communication Cabinet
P08



X-Gen Series

Mobile Energy Storage Solution

Core Energy Storage Unit

Battery type: LFP (1P52S 314Ah × 5 series/string)

Liquid cooling thermal management, IP54 protection

Built-in 200 kW NACS/CCS1 DC fast charging interface for EV charging

Built-in EVCC module, supporting self-charging from external DC chargers

Reserved MPPT cabinet input interface, supporting up to 240 kW MPPT capacity

Generator input interface: ≤400 kVA, 480 V, with ATS automatic switching



Product Function



Off-grid Power Supply

Delivers 270 kW for the 522 kWh version or 135 kW for the 261 kWh version, providing stable power in areas without grid access.



On-grid Peak Shaving

Supports demand management and energy arbitrage when connected to the grid, helping reduce electricity costs.



PV & ESS & Diesel Micro-grid

Prioritizes solar power with diesel generator backup for continuous power supply and reduced fuel consumption.



DC Fast Charging Service

Provides 200 kW fast charging for electric construction vehicles and passenger EVs.



Multi-voltage outlets

Integrated with NEMA 5-20R (120 V / 20 A, GFCI), L5-30 (120 V / 30 A), L14-30 (208 V / 30 A), L6-30 (208 V / 30 A), and other interfaces.



Smart dispatch

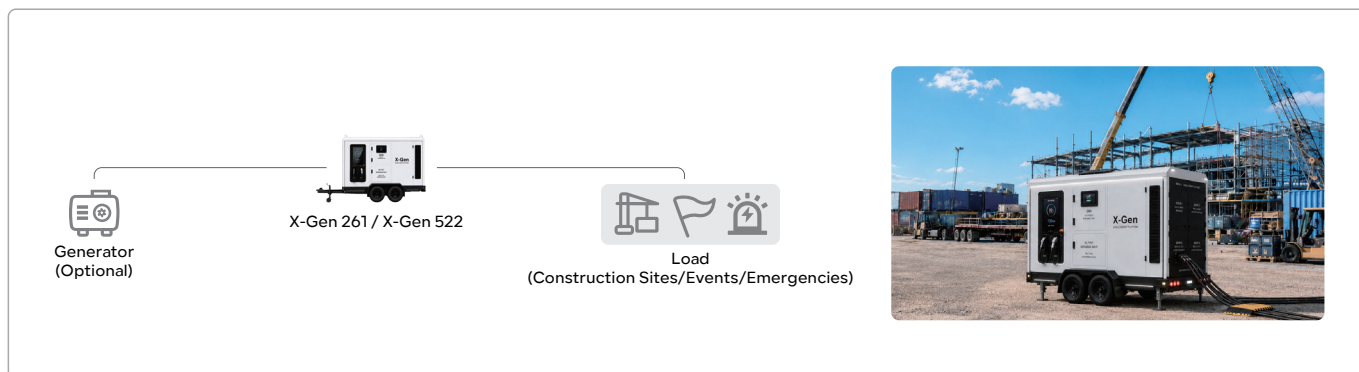
EMS supports local/remote strategy configuration, 4G data transmission, GPS positioning, and cloud platform monitoring.

X-Gen System Overview



■ LV Off-Grid Mobile Power Supply (Construction Sites/Events/Emergencies)

Off-Grid X-Gen System is suitable for temporary sites without grid access, providing power for tools, lighting, audio equipment, communication devices, and other temporary loads. A typical configuration supports one X-Gen unit operating independently, with optional diesel generator or MPPT cabinet connection to extend the power supply duration.

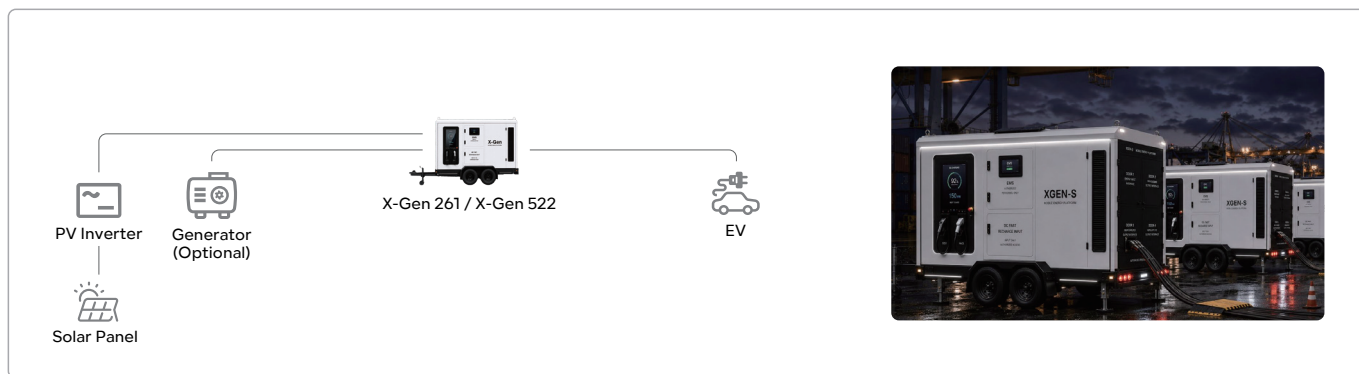


■ Configuration List

Components	Quantity	Remarks
X-Gen	1 unit	Selected according to power demand.
Generator	1 unit	≤400 kVA, provided by the customer.
MPPT Combiner	Optional	240 kW, connected to the photovoltaic array for PV power input.

■ LV Off-Grid PV-Storage-Diesel Mobile Charging Station

Off-Grid PV-Diesel X-Gen System is suitable for off-grid scenarios such as outdoor events and electric vehicle charging at construction sites, integrating photovoltaic generation and diesel generator support. A typical configuration includes one X-Gen unit operating independently, with optional MPPT cabinet and diesel generator connection to extend power supply duration and improve energy flexibility.

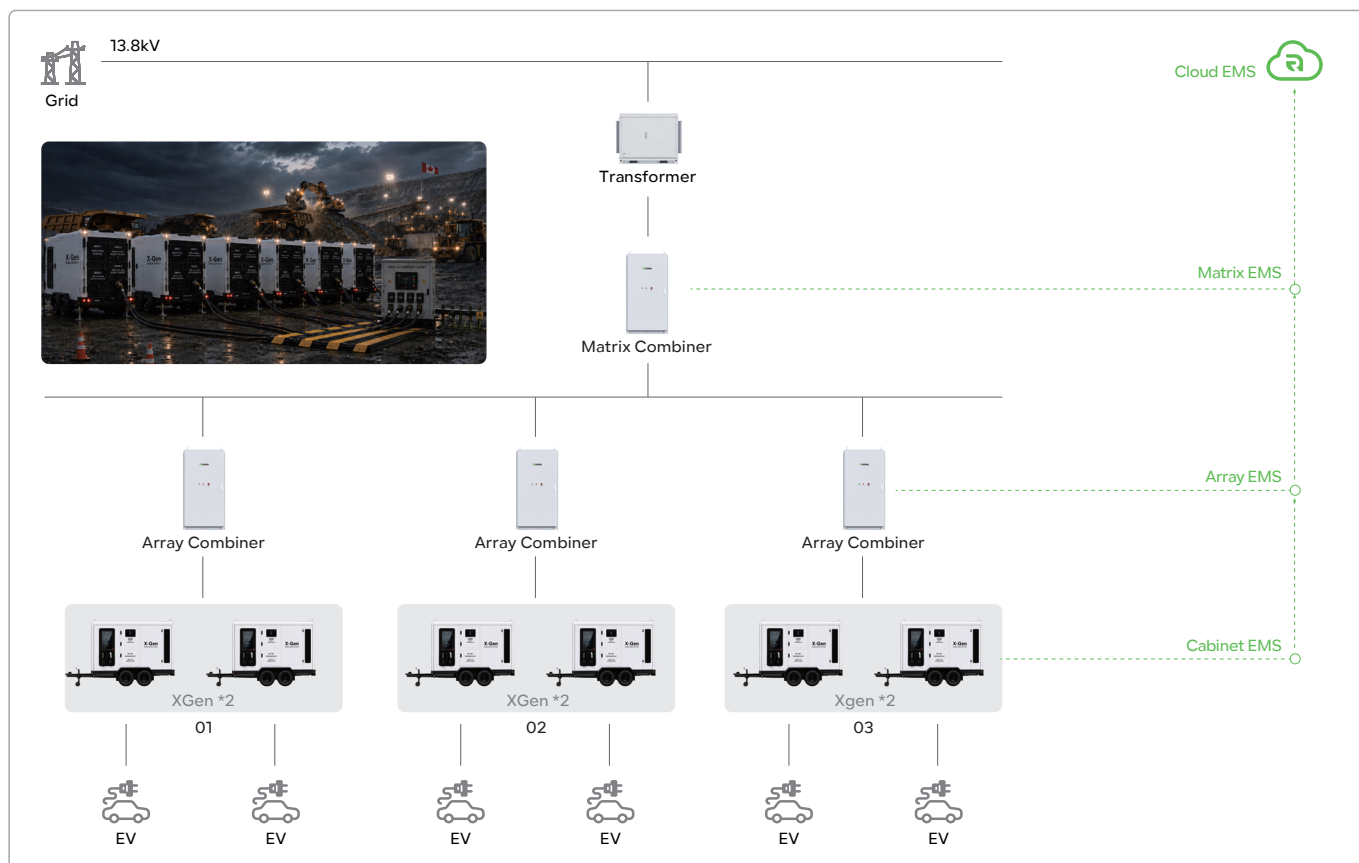


■ Configuration List

Components	Quantity	Remarks
X-Gen	1 unit	Selected according to power demand.
Generator	1 unit	≤400 kVA, provided by the customer.
MPPT Combiner	Optional	240 kW, connected to the photovoltaic array for PV power input.

On-Grid Peak Shaving & Valley Filling (Mobile Energy Storage Station)

X-Gen System supports connection to industrial and commercial parks or medium-voltage distribution networks, enabling demand management and electricity price arbitrage. The system supports up to 6 X-Gen units, with a total capacity of up to 3.13 MWh / 1.62 MW. A typical configuration includes 6 X-Gen units, each with 522 kWh capacity, connected through 3 array distribution cabinets, 1 matrix distribution cabinet, and 1 communication cabinet for system monitoring, communication management, and coordinated energy dispatch.

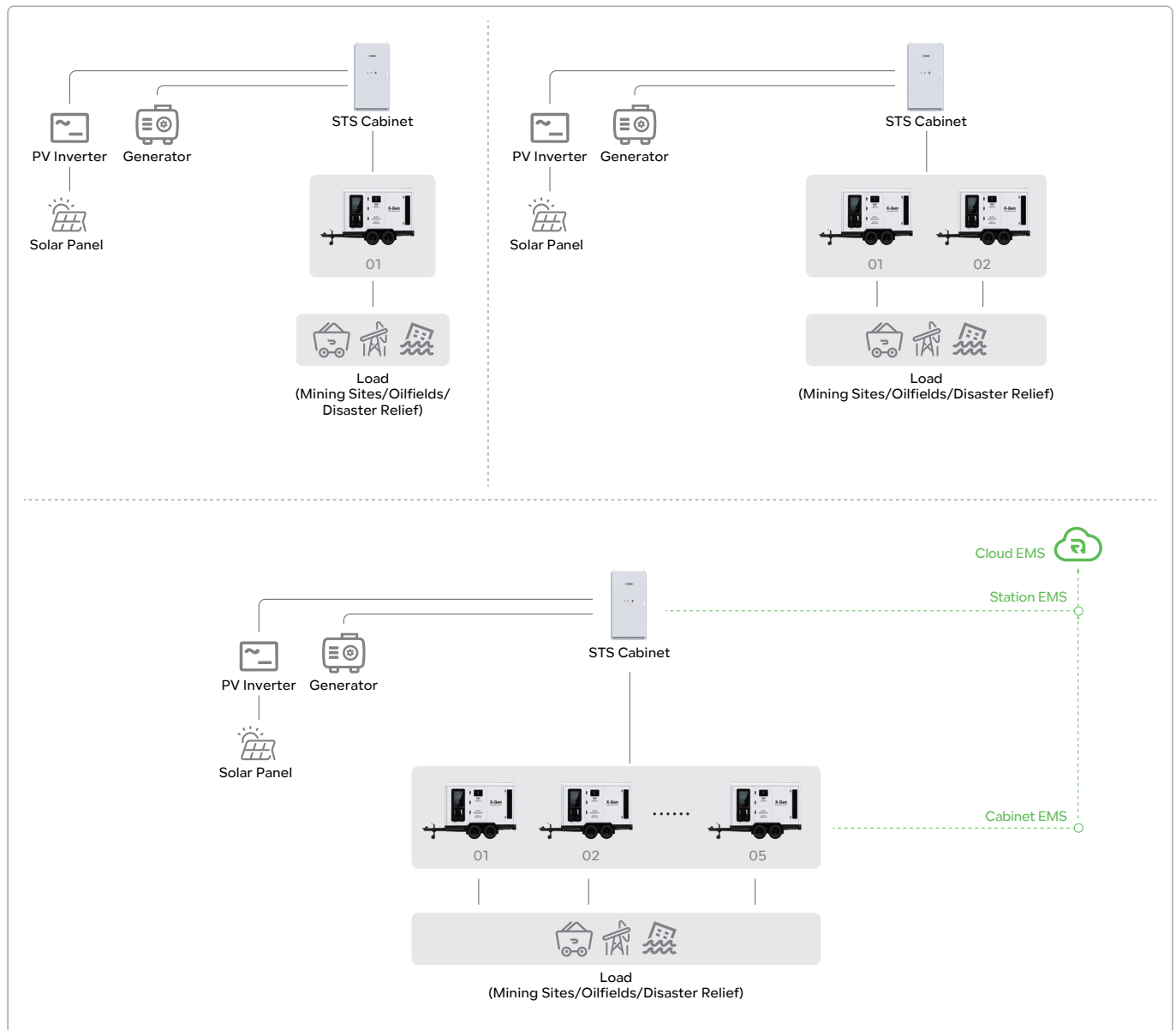


Configuration List

Components	Quantity	Remarks
XGen	6 units	Recommended 522 kWh version, with a total power of 1.62 MW.
Array Combiner	3 units	Every 2 EStand are connected to a single array cabinet
Matrix Combiner	1 unit	Connect 3 array cabinets
MPPT Cabinet	Optional	each unit can be paired with 1 unit (i.e., up to 2 units per EStand)
Communication Cabinet	3 units	Same as the matrix distribution cabinet
Anti-backflow meter & CTs	1 unit	1 electricity meter + 3 current transformers
Auxiliary Power Distribution Cabinet	Optional	/

Off-Grid Diesel-Storage Hybrid Power Supply

Off-Grid Diesel-Storage Hybrid Power Supply is suitable for fully off-grid scenarios requiring high-reliability continuous power supply, such as mining sites, oilfields, and emergency disaster relief, with on/off-grid switching time ≤ 20 ms. The system supports up to 5 X-Gen units in parallel. STS cabinets are selected according to the number of parallel X-Gen units, with each X-Gen-522 corresponding to 2×261 modules and matched with a 2-parallel STS configuration.



Configuration List

Components	Quantity	Remarks
X-Gen	1/2/5 units	Each unit includes 2×261 kWh & 1×400 kW charging stations
STS Cabinet	1 units	/
Generator	Optional	To be provided by the buyer



General Parameters

Battery Type	LiFePO4
Nominal Energy (kWh)	261
Voltage Range (Vdc)	702~936
Nominal Charge/Discharge Current (A)	157
PCS Rated Power (kW)	135
Rated Output Voltage (Vac)	480, 3P4W
Output Voltage Range (Vac)	408~528
Frequency (Hz)	60
Auxiliary Transformer Power (kW)	45
Auxiliary Output (V)	208 / 240 / 120
DC Fast Charging (NACS/CCS1)	200 kW, 200~950V
EVCC	Integrated
MPPT Interface	Reserved, max. 240 kW
AC Generator Interface	≤400 kVA, 480 V, ATS
Protection Rating	IP54 / NEMA 3R
Operating Temperature (°C/°F)	-30 ~ +55/-22 ~ +131
Cooling Method	Liquid-cooled (Battery) + Air-cooled (PCS)
Fire Safety	Aerosol fire suppression
Dimensions - W*D*H (mm/in)	3750*1800*2100(±10)/147.6*70.9*82.7(±0.5)
Weight (kg/lb)	~5250/~13558
Certifications	UL1973, UL9540A, UL9540, UL1741, IEEE1547



General Parameters

Battery Type	LiFePO4
Nominal Energy (kWh)	522
Voltage Range (Vdc)	702~936
Nominal Charge/Discharge Current (A)	314
PCS Rated Power (kW)	270(2*135kW)
Rated Output Voltage (Vac)	480, 3P4W
Output Voltage Range (Vac)	408~528
Frequency (Hz)	60
Auxiliary Transformer Power (kW)	45
Auxiliary Output (V)	208 / 240 / 120 / 230
DC Fast Charging (NACS/CCS1)	200kW , 200~950 V
EVCC	Integrated
MPPT Interface	Reserved, max. 240 kW
AC Generator Interface	≤400 kVA, 480 V, ATS
Protection Rating	IP54 / NEMA 3R
Operating Temperature (°C/°F)	-30 ~ +55/-22 ~ +131
Cooling Method	Liquid-cooled (battery) + Air-cooled (PCS)
Fire Safety	Aerosol fire suppression
Dimensions - W*D*H (mm/in)	3750*1800*2100(±10)/147.6*70.9*82.7(±0.5)
Weight (kg/lb)	~7000/~15432
Certifications	UL1973, UL9540A, UL9540, UL1741, IEEE1547

■ Array Combiner Cabinet Parameters



General Parameters

Product Model	R-MC625ACC01-US
Rated Power (kW)	625
Functions	Array-level low-voltage AC power distribution and combiner
Cable Entry/Exit Method	5 incoming(from Battery), 1 outgoing(to Grid)
Grid-Side (A)	1000
Operating Temperature	-20°C to 55°C
Ingress Protection Rating (IP Rating)	IP54
Corrosion Protection Rating	C5
Certifications	US standard

■ Matrix Combiner Cabinet Parameters



General Parameters

Product Model	R-MC2500ACC01-US
Rated Power (kW)	2500
Functions	Matrix-level low-voltage AC power distribution and combiner
Cable Entry/Exit Method	4 incoming(from Battery), 1 outgoing(to Grid)
Grid-Side	Built-in
Operating Temperature	-20°C to +55°C
Ingress Protection Rating (IP Rating)	IP54
Corrosion Protection Rating	C5
Certifications	US standard

■ STS Cabinet Parameters (1 units in parallel)



General Parameters

Product Model	R-ST02S63003-US
Core Switch	Fast Transfer Switch, 630 A ×2 in parallel, 4-pole, 1071 A
Control Box	STS Control Box
External Switch	630 A ×2
Diesel Generator Interface	MCCB, supports remote open/close control
PV Interface	MCCB, supports remote open/close control
Electric Meter	AC Meter
Ingress Protection Rating	IP54
Certifications	US standard
Installation Method	Floor-mounted or wall-mounted

■ STS Cabinet Parameters (2 units in parallel)



General Parameters

Product Model	R-SS05G200003-US
Core Switch	2000A*4 (A/B/C/N each)
Input-Side ACB (Air Circuit Breaker) (A)	2500
Output Load Switch (A)	1200
Manual Maintenance Bypass	1200A switch
Diesel Generator Switch	1200A, supports remote open/close control
PV Switch	1200A, supports remote open/close control
Control Box	STS Control Box
Auxiliary Configuration	Built-in UPS, air-cooled air conditioner
Ingress Protection Rating	IP54
Certifications	US standard
Installation Method	Outdoor floor-mounted

■ STS Cabinet Parameters (5 units in parallel)



General Parameters

Product Model	R-SS10G400003-US
Core Switch	2000A*2*4 (2 in parallel for each A/B/C/N phase)
Input-Side ACB (A)	4000
Output ACB (A)	2500
Maintenance Bypass ACB (A)	2500
Diesel Generator ACB	4000A, supports remote open/close control
PV ACB	4000A, supports remote open/close control
Control Box	STS Control Box
Auxiliary Configuration	Built-in UPS, air-cooled air conditioner
Ingress Protection Rating	IP54
Certifications	US standard
Installation Method	Outdoor floor-mounted



General Parameters	
Product Model	R-CC01C00800
Applicable Area	EU/US
Built-in Equipment	Internal/external switches, routers, EMS industrial PC, small UPS module, 600 W air-cooled air conditioner
Functions	Supports integration with Station EMS and third-party EMS equipped with multiple RS485 and Ethernet ports for data acquisition, communication, and control
Installation Method	Outdoor floor-mounted
Operating Temperature	-30°C to 55°C
Ingress Protection Rating	IP55
Corrosion Protection Rating	C5

Renon Power USA LLC

580 McIntyre Rd. McKinney, TX 75071

Renon Power Technology B.V.

Rietbaan 10, 2908 LP Capelle aan den IJssel

Renon Power 株式会社

東京都中央区日本橋箱崎町 20-5 VORT 箱崎 5F



Linkedin



Website