

SPECIFICATION SHEET

TERRA A SERIES ESS WITH INVERTER

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PRODUCT DETAILS

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PRODUCT OVERVIEW

The GeePower Home Energy Storage System (ESS) is a modular residential battery solution designed to help households reduce electricity costs by intelligently managing when energy is stored and used.

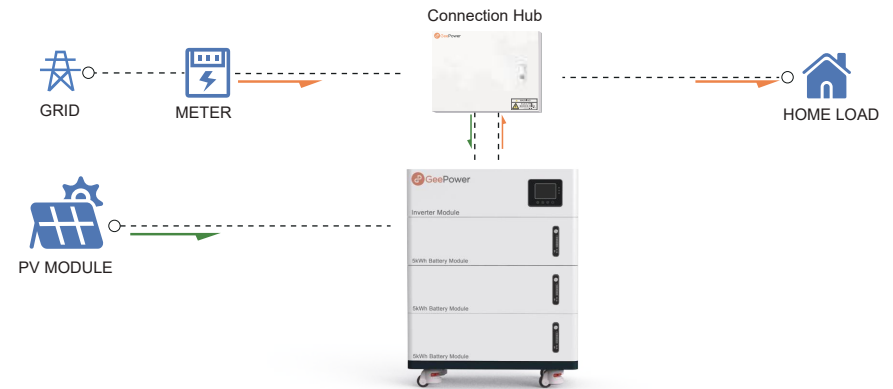
Built with high-quality LiFePO₄ battery modules, an integrated inverter, and a smart battery management and protection system, the ESS continuously monitors battery performance, temperature, and operating conditions to ensure safe, stable, and long-term operation.

Rather than relying solely on solar generation, the system is optimised for time-of-use electricity tariffs, allowing users to charge the battery during low-cost off-peak periods and discharge during high-tariff peak hours. This peak shaving and load shifting capability enables households to take advantage of price differences within the electricity grid and significantly reduce energy bills.

The modular design allows the system to grow alongside your household's energy needs, while remote monitoring and smart scheduling make it easy to track, manage, and optimise energy usage.

WORKING DIAGRAM

The ESS is designed for seamless integration into standard domestic electrical installations. The diagrams illustrate typical operation under:



PRODUCT FEATURES

■ Grid-Charged for Residential Use

Designed to charge energy from the utility grid during low-tariff periods and supply power internally to household loads, without exporting electricity back to the grid.

■ Modular Stackable Battery Design

The modular design allows flexible capacity expansion as energy needs increase, with no system rewiring required.

■ Integrated Inverter with Dual MPPT

The high-efficiency inverter features dual MPPT channels, allowing optimal use of solar energy to power household loads, even when the system is primarily grid-charged.

■ Stable RS485 Communication

The inverter and battery modules exchange data via RS485. The inverter adjusts charging and discharging strategies based on battery status, ensuring long-term stable and reliable system operation.

■ User-Defined Off-Peak Charging & Peak Usage

Supports user-defined charging and discharging schedules, allowing energy to be charged from the grid when electricity prices are lower and used during higher-cost periods.

■ Long-Life LiFePO₄ Battery

Thermally stable, low-maintenance LiFePO₄ battery offers reliable performance for up to 15 years.

■ Built-in Fire Suppression Module

Installed inside the battery module, this system adds a secondary safety layer to respond rapidly to rare fire events, enhancing homeowner peace of mind.

■ Pure Sine Wave Output with SPWM Technology

Delivers clean and stable pure sine wave output to protect household appliances and sensitive electronics.



USER INTERFACE

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Inverter Front Panel

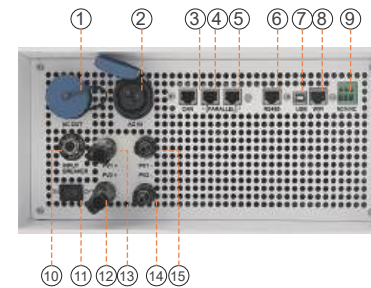


NO.	Name	Instruction
①	LCD Display	Displays system operating status and real-time data
②	Status Indicator	Solid on: Grid mode, AC output active Flashing: Battery mode, output from battery or PV
③	Charging Indicator	Solid on: Battery fully charged Flashing: Battery charging
④	Fault Indicator	Solid on: Inverter fault Flashing: Inverter warning
⑤	ESC (Back)	Exit or return to previous menu
⑥	DOWN	Scroll down / next option
⑦	UP	Scroll up / previous option
⑧	Enter / Confirm	Confirm selection or enter setup menu

CONNECTIONS & INDICATORS

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Side Panel Interfaces



No.	Interface
①	AC Output (AC OUT)
②	AC Input (AC IN)
③	CAN Communication Port
④	Parallel Communication Port A
⑤	Parallel Communication Port B
⑥	RS485 Communication Port
⑦	USB Communication Port
⑧	WiFi Communication Port
⑨	Dry contact port
⑩	Input Circuit Breaker
⑪	Main ON/OFF Switch
⑫	PV2+
⑬	PV1+
⑭	PV2-
⑮	PV1-

Battery LED Indicators



No.	Indicator Status
①	83%-100% Capacity
②	66%-83% Capacity
③	50%-66% Capacity
④	33%-50% Capacity
⑤	16%-33% Capacity
⑥	0% -16% Capacity
⑦	Warning Indicator
⑧	Power ON/OFF Indicator
⑨	System Running Indicator

TECHNICAL SPECIFICATIONS

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Lithium-ion Battery Energy Storage System (Terra A Series) Model: GPTE-A-51.2

AC OUTPUT

Rated Output Power	6200W
Peak Power	12400VA
Rated Output Voltage	230Vac
Rated Output Frequency	50/60Hz
Nominal AC Current	27A
Max.AC Current	40A
Output Waveform	Pure Sine Wave
Switch Time	10ms

AC INPUT

Rated Grid Voltage	230VAC(170-280Vac)
Rated Grid Frequency	50/60Hz
Bypass Overload Current	40A

PV INPUT

Num.of MPPT	2
Max. PV Input Power	4500W+4500W
Max. PV Input Current	18A+18A
Max. PV Input Voltage	550Vdc+550Vdc
Max. Voltage Range	120-480Vdc

BATTERY

Rated Capacity	5120Wh (100Ah)	10240Wh (200Ah)	15360Wh (300Ah)	20480Wh (400Ah)	25600Wh (500Ah)	30720Wh (600Ah)
Qty. of Battery Modules	1	2	3	4	5	6
Nominal Voltage	51.2V					
Discharge Voltage Range	44V-56.4V					
Standard Charging Current	50A					
Max.Charge/Discharge Current	100A					
Battery Type	LiFePO ₄					

GENERAL DATA

System Compatibility	Stackable Residential ESS					
Protective Class	Class I					
IP Rating	IP20(Indoor Use Only)					
Operating Temperature Range	-10℃-55℃					
Communication Interface	RS485					
Dimensions(L*W*H)mm	650*395*472H	650*395*652H	650*395*832H	650*395*1012H	650*395*1192H	650*395*1372H
Weight(kg)	81	127.5	174	220.5	267	313.5

COMPLIANCE

Inverter Module	EN IEC 62109-1; EN IEC 62109-2
Battery Module	IEC 62619; UN38.3; MSDS
System	EN IEC 62477-1; EN IEC 61000-6-1; EN IEC 61000-6-3; G99 (UK Grid Code); UKCA; EU RoHS

PACKING DETAILS

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PRODUCT DIMENSION



ACCESSORIES



Inverter Module



Battery Module *1



MC4 Plug *4



Installation Kit



WiFi Module



AC aviation plug *2