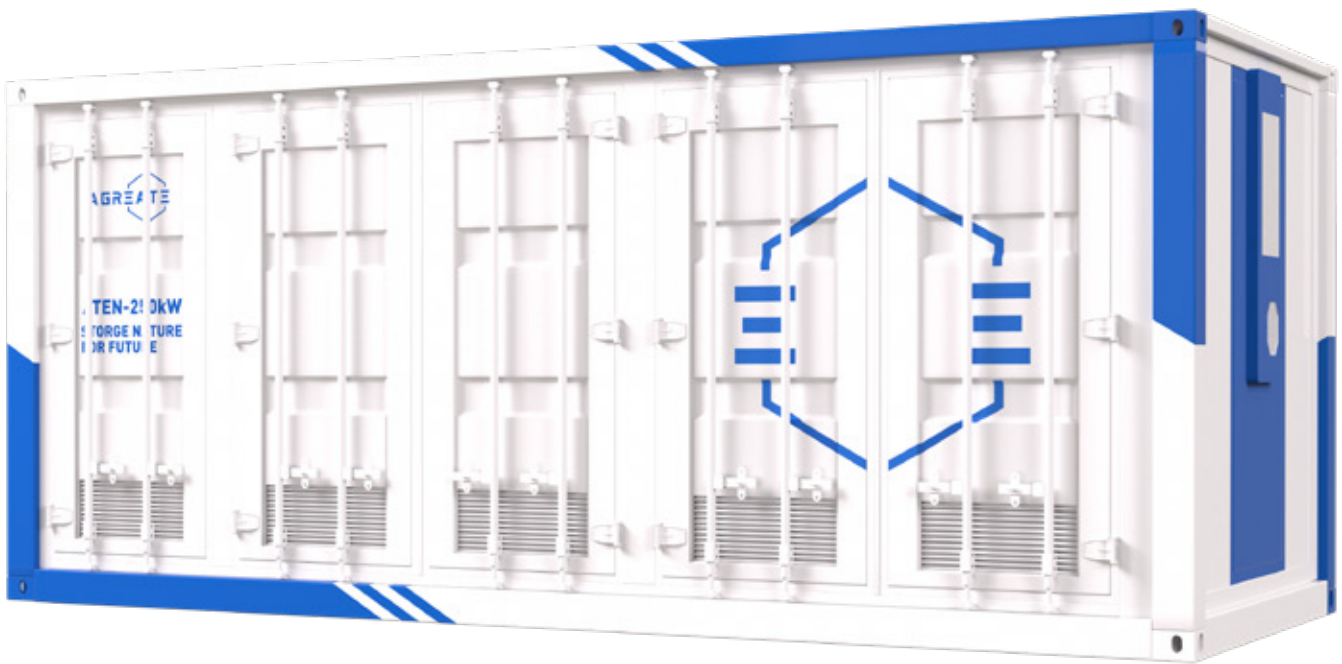


AGREAT



Battery ESS ATEN-250 Micro-Grid System

AGreatE ATEN-250 is a fully integrated all-in-one containerized energy storage system, which delivers a wide range of energy storage solutions for commercial and industrial applications, microgrids and electrical grids.



ATEN
BATTERY ESS

WWW.AGREATE.COM



Advanced & Guaranteed System

- Strong R&D team supports innovative products and continuous improvement thereafter;
- Self-developed BESS controller and EMS, ensuring best reliability of the system;
- High-standard testing process guaranteeing quality delivery;

Reliable & Competitive Quality

- UL9540A compliant up to battery string level, 1 out of 7 manufacturers in China;
- Containerized with protection level at IP54 for the whole system and IP65 for the battery compartment;

Money-saved & Versatile Application

- 6,000 cycles battery cell against market prevailing 3,000 cycles battery cell;
- DC coupling system ensuring higher DC/AC ratio, higher round trip efficiency;
- Accessible to different sources of powers PV, ESS, Grid or DG, supports both on-grid and off-grid modes;

Smart & Easy Operation

- Fully integrated and plug-and-play microgrid system; 7*24 cloud-based monitoring and operation
- platform supports the visit of Mysql database and multiple mobile/PC devices.



SAFE AND RELIABLE



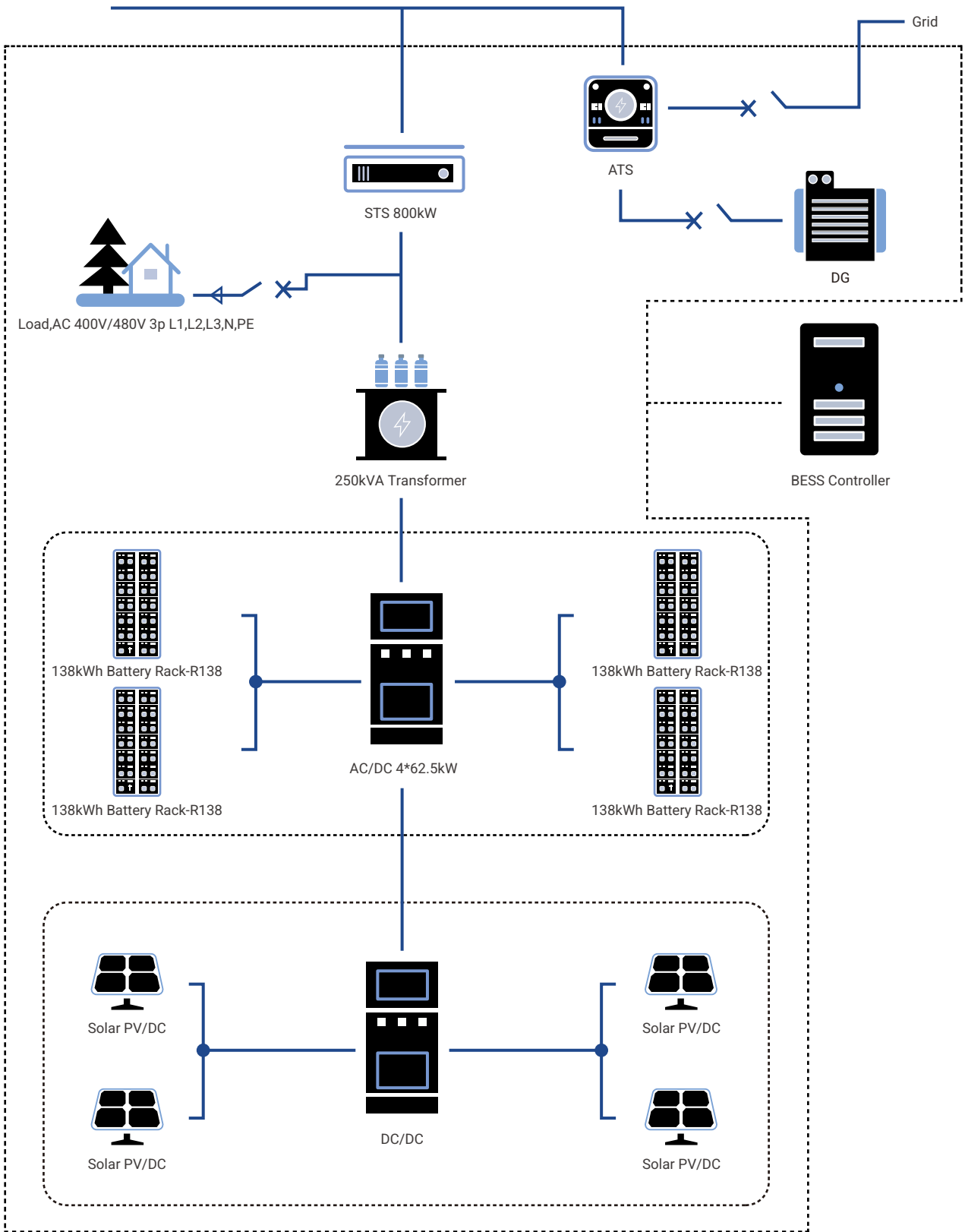
LONG SPAN



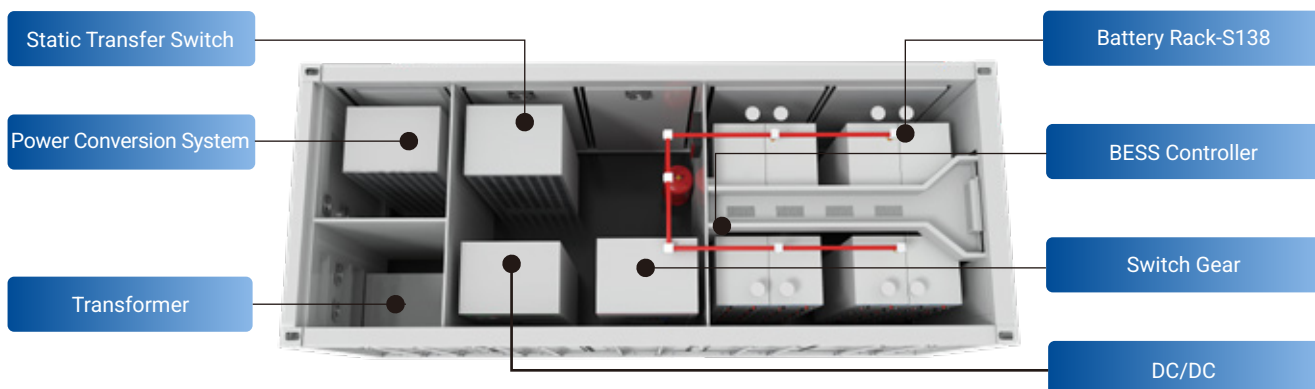
SMART AND FRIENDLY

System Topology (200kW PV + 250kW/552kWh BESS)

Grid AC 400V/480V 3P,A,B,C,N,PE



System Configuration



Product features (250kW/552kWh)

- The 250kW PCS cabinet contains a 250kW PCS with 500-850V DC voltage;
- The 4*138kWh battery rack are converted to 400V AC through the modularized PCS, AC power will be transferred to 400V AC by theisolated transformer to support the load;
- The battery rack is charged from corresponding PV string 50kW DC/DC during day time operation;
- Power supply will be switch to DG by the ATS and STS seamlessly transferred to PCS ,when BESS and PV are short of supply;

Product Model	S138 Strings	Container	STS (optional)	DC/DC Convertor	PCS	Transformer
	S138-15P9	Size	800kW	300kW	250kW	250kVA
M250-276	2	20ft	1	1	1	1
M250-552	4	20ft	1	1	1	1
M250-1,104	8	40ft	1	1	1	1
M250-1,656	12	40ft	1	1	1	1

□ Key Components



Battery Rack-II

- 1C Charge/Discharge;
- Power supply can be single battery Rack or parallel battery strings;
- Easy configuration and maintainance



Static Transfer Switch

- Integrated distribution cabinet function,
- a variety of distributed power access;
 - Millisecond on/off-grid switching;
 - Automatic operation, unattended;
 - It has a 15-inch display screen, which
 - can monitor the operation of each equipment

Item	Data
Battery module	R138-15P9
Pack qty	15 (6~15 Configurable)
Nominal capacity	138kWh (55~138kWh)
Discharge cutoff- Rated- Charge cutoff voltage	672V~768V~852V
Pack	3.2V/90Ah@2P16S
String measuring voltage range	100~1,000V
String voltage detection accuracy	±0.5%
String voltage sampling period	100ms
String measuring current range	±300A
String current detection accuracy	≤1%
Rack temperature detection accuracy	±2°C
SOC calculation accuracy	≤7%
Input insulation resistance	≥10MΩ, 1,000V DC
Communication	Modubus TCP, CAN, Modubus RTU
System cycle life	≥5,000 cycles@0.5C, 25°C
Dimension (W*D*H)	800*750*2,050mm
Weight	1,430kg
Certifications	UL1973, UL9540A, IEC62619, CE, UN38.3

Item	Data
Rated power	800kW
Rated voltage	400V
Input voltage range	-25%~15%
Output voltage range	-25%~15%
Rated input current	1,155A
Max input current	1,270A (110%)
Frequency range	50Hz/60Hz±4.5Hz
Switching time	10ms~80ms
IP degree	IP20
Efficiency	99.5% (Full load)
The max load standing capacity during switching	300kW (RCD type, pure capacitive load or inductive load < 100kvar)
Wiring mode	3 Phase 4 Wire
Dimension (W*D*H)	800*800*2,160mm
Weight	450kg



DC/DC Inverter

- Bi-direction DC-DC converter;
- Field-replaceable modular design;
- Shared or separated DC bus



Power Conversion System

- Single-stage three-level modularization;
- Multi-branch input to reduce battery series and parallels connection



BESS Controller

- Data acquisition;
- Multiple protection (overload protection & reverse power protection);
- Intelligent interaction HMI

Item	Data
LV PV input mode	
HV DC bus voltage	LV voltage+40V~850V
HV DC bus current	0~100A*6
LV PV input voltage	250~840V
LV PV input current	0~120A*6
Power rating	50kW*6
Dimensions (W*D*H)	1,100*800*2,160mm
Weight	550kg

Item	M250-EX	M250-NA
Battery voltage range	500~850V	
DC max current	550A	
Rated AC power	250kW	
Maximum AC power	275kW	
Rated voltage	400V	480V
Grid voltage range	±15%	±10%
AC rate of current	360A	301A
Output THDi	≤3%	
Adjustable PF	1 (leading)~1 (lagging)	
Grid frequency range	50/60±2.5Hz	59.5~60.5Hz
Isolation method	3 Phase 4 Line Transformer	
Dimensions (W*D*H)	1,200*800*2,160mm	
Weight	1,280kg	

Item	Data
Dimension (L*W*H)	480*230*770mm
Weight	35.5kg
Power interface	AC 110/220V, 50/60Hz
PCS communication	TCP/RS485
HVU communication	TCP/IP
HVAC communication	RS485
Grid control application	Time shifting, peak shaving, renewables moving average
Offgrid control application	Backup power, PV/DG/EV/ESS integrated micro-grid control
Battery management system	DC busbar incoming control

System Technical Specifications

Item	M250-276/NA	M250-552/NA	M250-1,104/NA	M250-1,656/NA
DC Data				
Battery Chemisty	Lithium Iron Phosphate (LFP)			
Cell life cycle	80% Retention with 5,000 Cycles @ 1C 25°C			
Cell spec	3.2V/90Ah			
Rack configuration	2P240S			
Number of strings	2	4	8	12
Rack rated energy capacity	138kWh			
DC rated energy capacity	276kWh	552kWh	1,104kWh	1,656kWh
Rated voltage	768V			
Voltage range	672V~852V			
BMS communication interface	RS485, Ethernet			
BMS communication protocol	Modbus RTU, Modbus TCP			
AC Data				
Rated AC power	250kW			
Maximum AC power	275kW			
Rated voltage	400V/480V			
Grid voltage range	±15%/±10%			
AC rate of current	360A/301A			
Output THDi	≤3%			
Grid connected power factor	1(leading)~1(lagging)			
Grid frequency range	50/60±2.5Hz/59.5~60.5Hz			
Isolation method	3 Phase 4 Line Transformer			
General Data				
Dimension w/o clearances(L*W*H)	6,058*2,438*2,591mm		6,058*2,438*2,591mm	
Weight of whole system	<12T	<15T	<21T	<26T
Degree of protection	IP54			
Operating temperature range	-20~40 °C			
Relative humidity	0~95 % (non-condensing)			
Max working altitude	3,000m/9,842ft			
Cooling concept of DC hatch	HVAC			
Communication interfaces	RS485, Ethernet, GPRS			
Certificates	IEC 62619, UN 38.3, CE,UL1973			

□ Notes



Email Sales@agreate.com

Address [AGreatE Inc, 2734 Loker Avenue West, Suite D, Carlsbad, CA 92010, USA](#)

PRODUCT DIMENSIONS AND PHYSICAL APPEARANCE IN THIS CATALOGUE ARE NOMINAL AND ARE PROVIDED FOR THE CONVENIENCE OF OUR CUSTOMERS.

AGREATE RESERVES THE RIGHT TO MAKE CHANGES FROM TIME TO TIME, WITHOUT PRIOR NOTIFICATION, WHICH MAY CHANGE THE DIMENSIONS AND OR PHYSICAL APPEARANCE SHOWN.

WE THEREFORE RECOMMEND YOU TO CONSULT AN AGREATE SALES REPRESENTATIVE BEFORE ITS PURCHASE.