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EnerMatrix Container ESS Brochure

Turn-key solution at one stop



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The ATESS EnerMatrix outdoor containerized solution is a total turn-key solution with an IP54 protection level to handle harsh environment conditions. It's inbuilt with batteries, inverters, accessories, safety protection system and monitoring system.



Microgrid



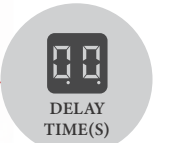
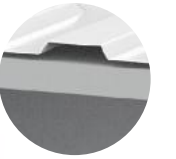
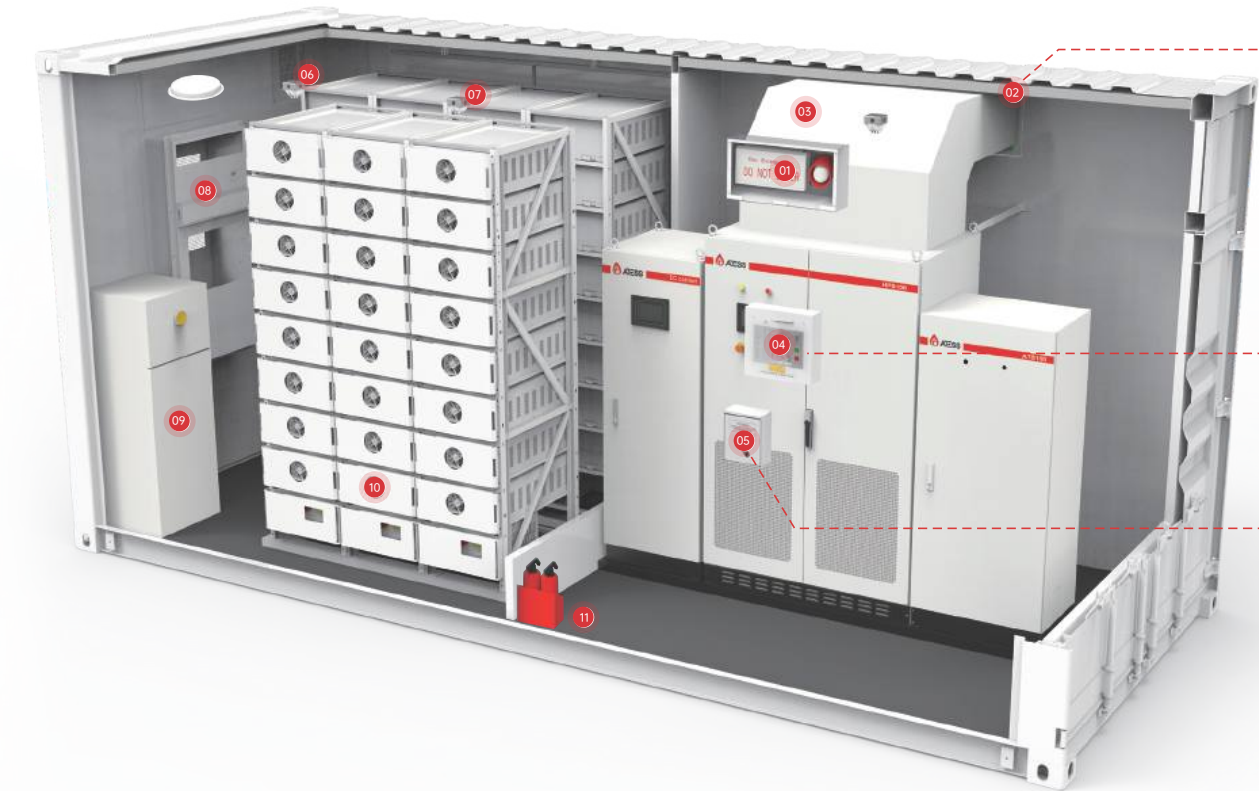
Backup power



Peak shaving



Grid support



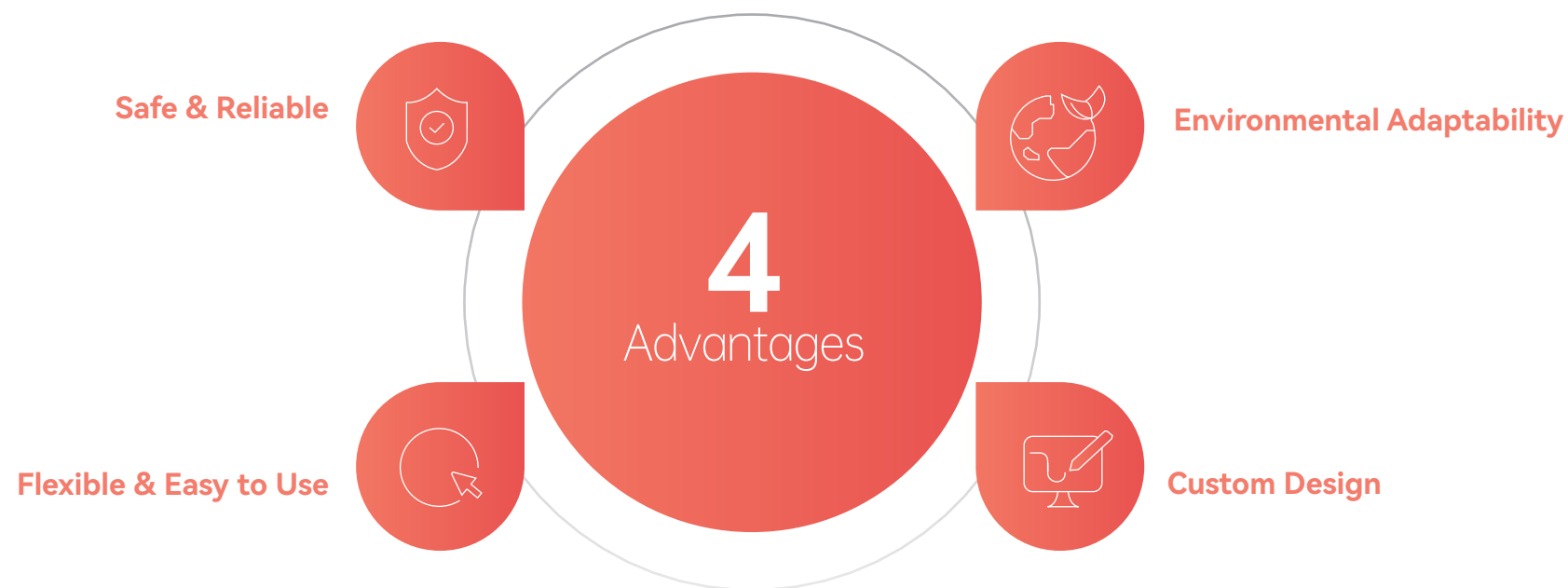
Comprehensive Protection

- 01 Audible and visual alarm
- 02 50mm rock wool
- 03 Air flue
- 04 Extinguishing control panel

- 05 Emergency button
- 06 Smoke sensor
- 07 Temperature sensor
- 08 Smart air conditioner

- 09 HFC-227ea/FM200
- 10 Battery
- 11 Dry powder fire extinguisher

Advantages



Safe & Reliable

- High-precision smoke and temperature sensors for real-time monitoring of the container's internal environment.
- Fire linkage control: the energy storage system shuts down immediately when the fire system is triggered, ensuring equipment safety.
- Delayed sprinkler design (adjustable time): allows personnel inside the cabinet time to assess and escape in case of fire.
- External emergency stop button: shut down the system without entering the container.
- Combustible gas discharge and explosion-proof design.



Environmental Adaptability

- Intelligent temperature control system with dual temperature and humidity adjustment to ensure optimal operating conditions.
- 50mm rock wool layer (customizable thickness) for insulation and anti-freeze, with a thermal conductivity of $\leq 0.04\text{W/m.k}$.
- High protection level: IP54 for equipment cabin; IP65 for battery cabin.
- Corrosion resistance suitable for coastal environments.



Flexible & Easy to Use

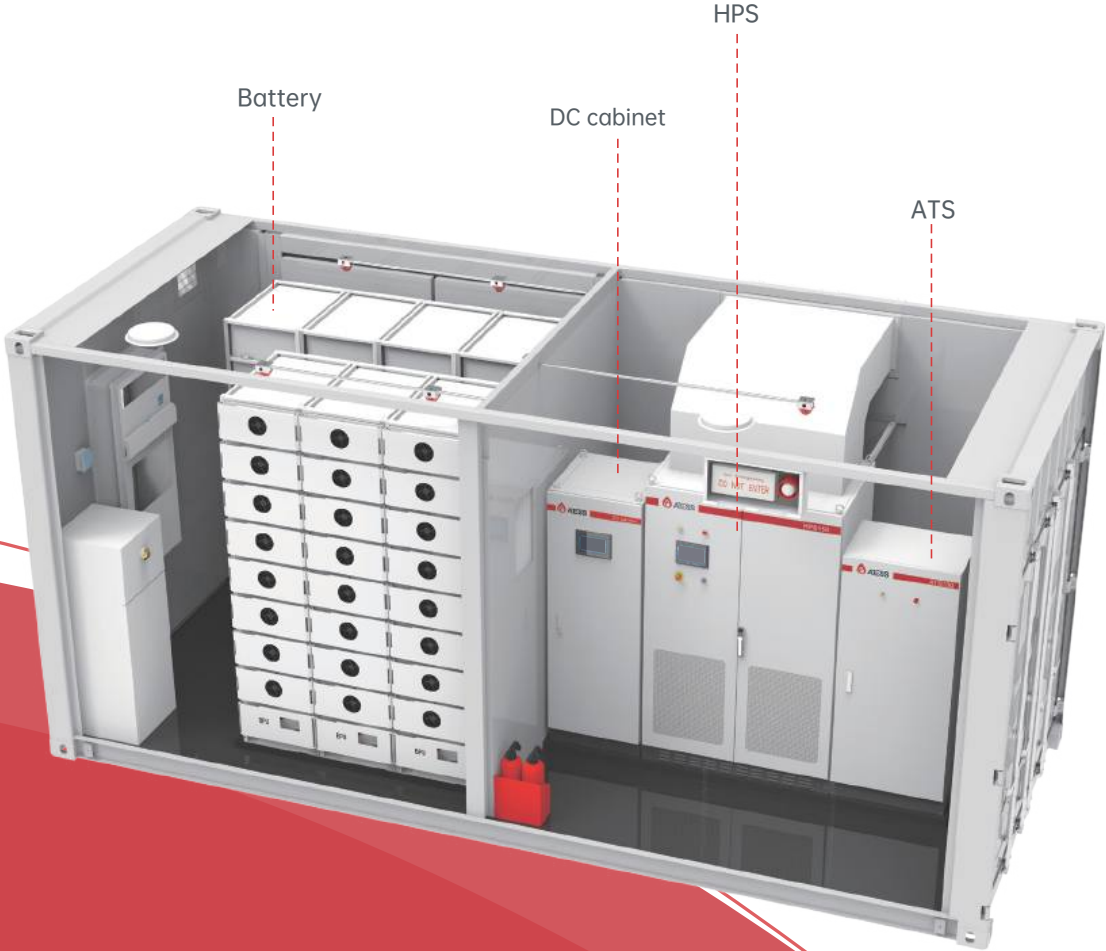
- Matrix design for flexible configuration.
- Easy expansion to reduce initial investment.
- Pre-assembled and pre-wired for plug-and-play installation.
- OSS platform for remote upgrades and maintenance, reducing on-site workload.



Custom Design

- Appearance: open design showcasing your extraordinary creativity.
- Auxiliary power distribution: pre-reserved local standard power distribution interface for worry-free auxiliary power.
- Equipment configuration: modules configured as needed to meet diverse requirements.
- Internal space design: optimized space layout with customized design for each container.

20FT BESS Container



	1*HPS50+ATS50	1*HPS100+ATS100	1*HPS150+ATS150	2*HPS50	2*HPS100	2*HPS150
Power Converter Compatibility						
Rate power	50KW	100KW	150KW	100KW	200KW	300KW
AC voltage	Rate: 380V/400V, Range: 360V~440V					
Compatible Battery System						
Battery Capacity range	114~802.2kWh	129~802.2kWh	229~802.2kWh	129~802.2kWh	258~802.2kWh	387~802.2kWh
Battery type	LFP					
Battery Voltage Range	352V~600V DC					
Crate	0.5C,1C(Opt)					
Optional PV System connection						
Max. PV power	75KWp	150KWp	225KWp	150KWp	300KWp	450KWp
PV MPPT voltage range	480V~800V					
General data						
Size (W×H×D)	6058×2591×2438mm / 20 * 8.6 * 8 ft					
Max. weight	12930kg	13216kg	13618kg	13463kg	14139kg	14743kg
Noise	70dB					
Degree of protection	IP54					
Max elevation	6000m (derate over 3000m)					
Operating ambient temperature	-20°C to 50°C (De-rating over 45°C)					
Humidity	0~95% (No condensing)					
Cooling	Forced air cooling for power electronics. Air conditioned for battery system with heater and dehumidifier					
FIRE safety	FM200 (HFC-227ea) or ABC					
Other						
AC connection	3-Phase 4-wire+PE at AC connection					
Communication	RS485, CAN, Ethernet / MODBUS TCP/IP					

20FT BESS Container



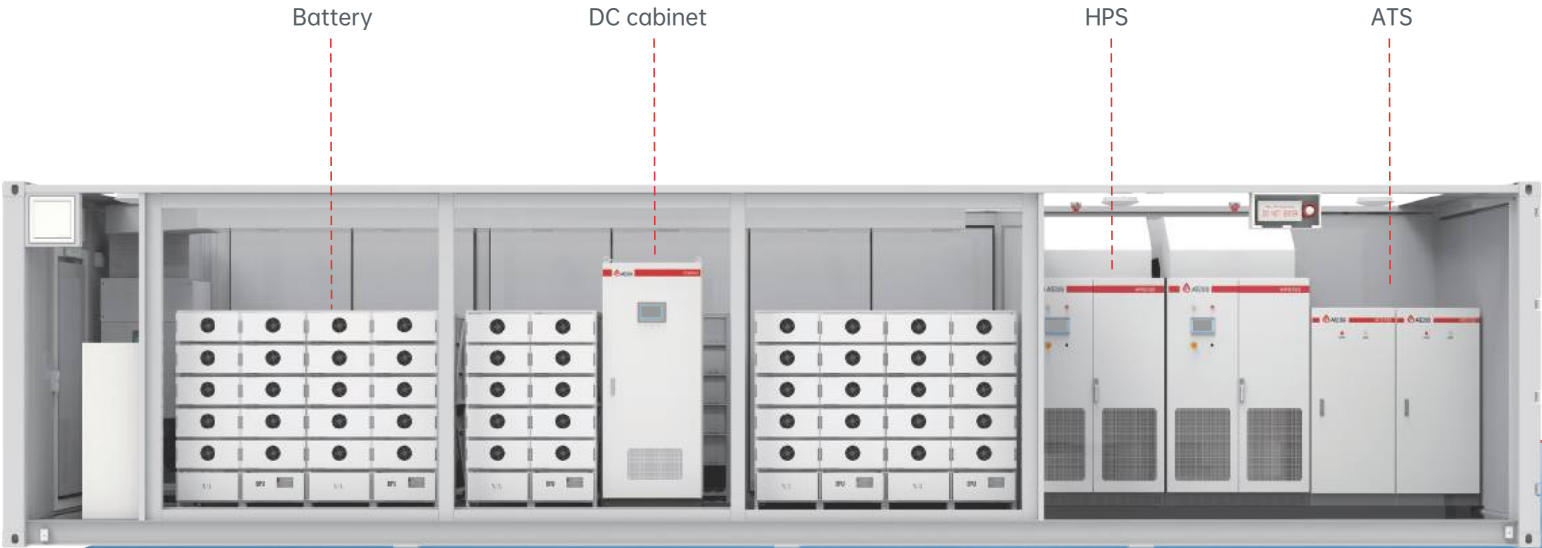
Battery

DC cabinet

HPS

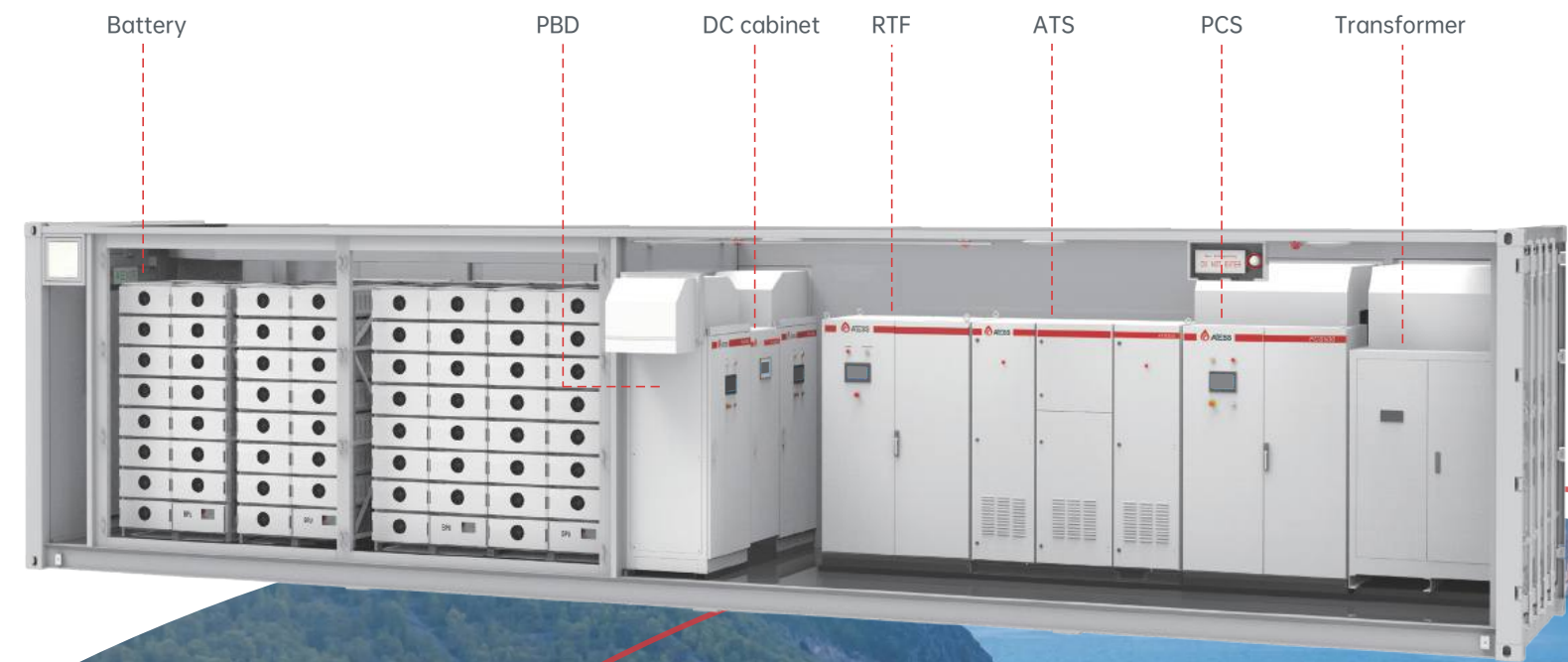
	HPS50	HPS100	HPS150
Power Converter Compatibility			
Rate power	50KW	100KW	150KW
AC voltage	Rate: 380V/400V, Range: 360V~440V		
Compatible Battery System			
Battery Capacity range	114~1260.6kWh	129~1260.6kWh	229~1260.6kWh
Battery type	Lithium iron phosphate battery		
Battery Voltage Range	352V~600V DC		
Crate	0.5C,1C(Opt)		
Optional PV System connection			
Max. PV power	75KWp	150KWp	225KWp
PV MPPT voltage range	480V~800V		
General data			
Size (W×H×D)	6058×2591×2438mm / 20 * 8.6 * 8 ft		
Max. weight	16849kg	176817kg	17489kg
Noise	70dB		
Degree of protection	IP54		
Max elevation	6000m (derate over 3000m)		
Operating ambient temperature	-20°C to 50°C (De-rating over 45°C)		
Humidity	0~95% (No condensing)		
Cooling	Forced air cooling for power electronics. Air conditioned for battery system with heater and dehumidifier		
FIRE safety	FM200 (HFC-227ea) or ABC		
Other			
AC connection	3-Phase 4-wire+PE at AC connection		
Communication	RS485, CAN, Ethernet / MODBUS TCP/IP		

40FT BESS Container



	2*HPS100+2*ATS100	2*HPS150+2*ATS150
Power Converter Compatibility		
Rate power	200KW	300KW
AC voltage	Rate: 380V/400V, Range: 360V~440V	
Compatible Battery System		
Battery Capacity range	429~1944.8kWh	785~1944.8kWh
Battery type	Lithium iron phosphate battery	
Battery Voltage Range	352V~600V DC	
Crate	0.5C,1C(Opt)	
Optional PV System connection		
Max. PV power	300KWp	450KWp
PV MPPT voltage range	480V~800V	
General data		
Size (W×H×D)	12192×2591×2438mm / 40 * 8.6 * 8 ft	
Max. weight	24973kg	25537kg
Noise	70dB	
Degree of protection	IP54	
Max elevation	6000m (derate over 3000m)	
Operating ambient temperature	-20°C to 50°C (De-rating over 45°C)	
Humidity	0~95% (No condensing)	
Cooling	Forced air cooling for power electronics. Air conditioned for battery system with heater and dehumidifier	
FIRE safety	FM200 (HFC-227ea) or ABC	
Other		
AC connection	3-Phase 4-wire+PE at AC connection	
Communication	RS485, CAN, Ethernet / MODBUS TCP/IP	

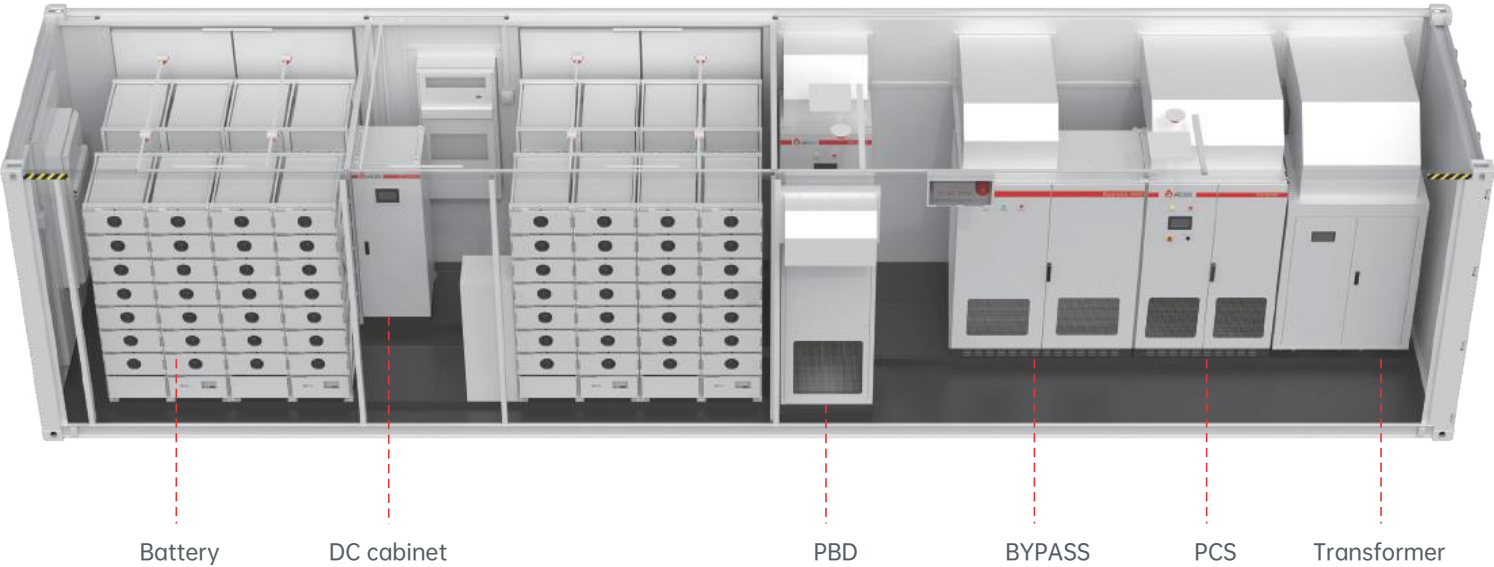
40FT BESS Container



1*PCS500+1*Transformer500+1*RTF600+1*ATS630+2*PBD250

Power Converter Compatibility	
Rate power	500KW
AC voltage	Rate: 380V/400V, Range: 360V~440V
Compatible Battery System	
Battery Capacity range	602.1~1687kWh
Battery type	Lithium iron phosphate battery
Battery Voltage Range	600V~900V DC
Crate	0.5C,1C(Opt)
Optional PV System connection	
Max. PV power	500KWp
PV MPPT voltage range	480V~850V
General data	
Size (W×H×D)	12192×2591×2438mm / 40 * 8.6 * 8 ft
Max. weight	24385Kg
Noise	70dB
Degree of protection	IP54
Max elevation	6000m (derate over 3000m)
Operating ambient temperature	-20℃ to 50℃ (De-rating over 45℃)
Humidity	0~95% (No condensing)
Cooling	Forced air cooling for power electronics. Air conditioned for battery system with heater and dehumidifier
FIRE safety	FM200 (HFC-227ea) or ABC
Other	
AC connection	3-Phase 4-wire+PE at AC connection
Communication	RS485, CAN, Ethernet / MODBUS TCP/IP

40FT BESS Container



1*PCS500+1*Transformer500+1*BYPASS500+2*PBD250

Power Converter Compatibility	
Rate power	500KW
AC voltage	Rate: 380V/400V, Range: 360V~440V
Compatible Battery System	
Battery Capacity range	602.1~1928kWh
Battery type	Lithium iron phosphate battery
Battery Voltage Range	600V-900V
Crate	0.5C,1C(Opt)
Optional PV System connection	
Max. PV power	500KWp
PV MPPT voltage range	480V~850V
General data	
Size (W×H×D)	12192×2591×2438mm / 40 * 8.6 * 8 ft
Max. weight	26275Kg
Noise	70dB
Degree of protection	IP54
Max elevation	6000m (derate over 3000m)
Operating ambient temperature	-20°C to 50°C (De-rating over 45°C)
Humidity	0~95% (No condensing)
Cooling	Forced air cooling for power electronics. Air conditioned for battery system with heater and dehumidifier
FIRE safety	FM200 (HFC-227ea) or ABC
Other	
AC connection	3-Phase 4-wire+PE at AC connection
Communication	RS485, CAN, Ethernet / MODBUS TCP/IP

Transformer

BYPASS

PCS

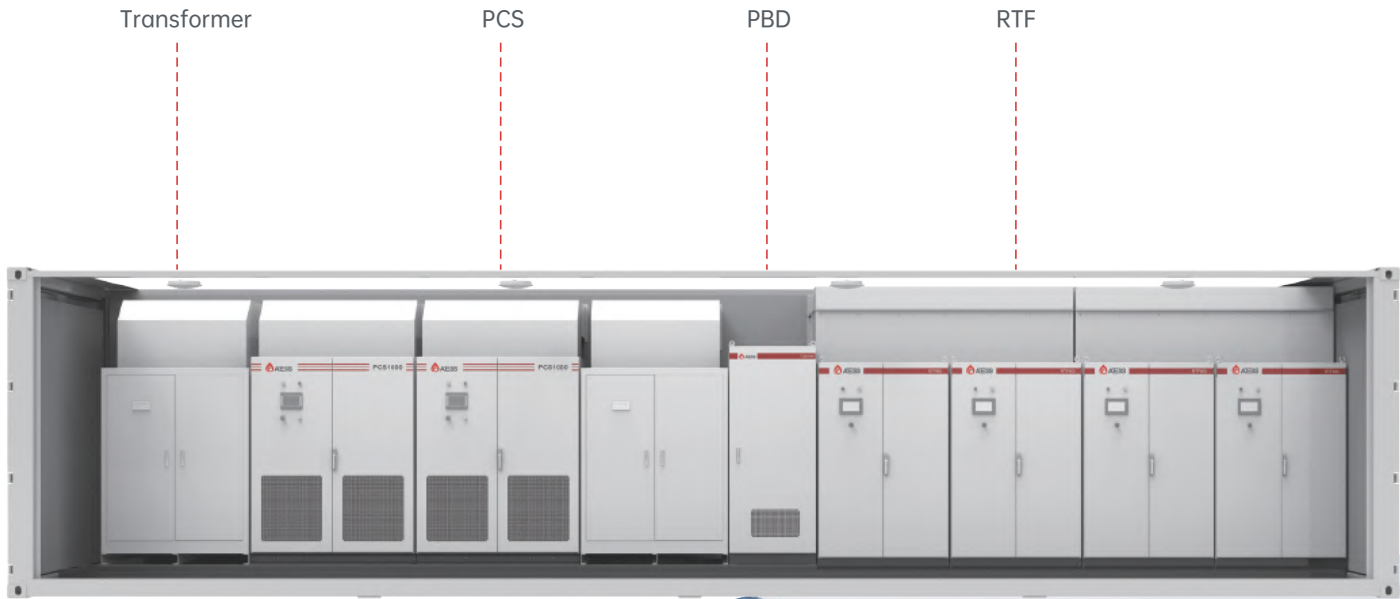


40HC Device Container

3*PCS500+3*Transformer500+3*Bypass500

Power Converter Compatibility	
Rate power	1500KW
AC voltage	Rate: 380V/400V, Range: 360V~440V
General data	
Size (W×H×D)	12192×2591×2438mm / 40 * 8.6 * 8 ft
Max. weight	16310kg
Noise	70dB
Degree of protection	IP54
Max elevation	6000m (derate over 3000m)
Operating ambient temperature	-20℃ to 50℃ (De-rating over 45℃)
Humidity	0~95% (No condensing)
Cooling	Smart air cooling
FIRE safety	ABC
Other	
AC connection	3-Phase 4-wire+PE at AC connection
Communication	RS485, CAN, Ethernet / MODBUS TCP/IP

40HC Device Container



PCS1000*2+Transformer1000*2+RTF600*4

Power Converter Compatibility	
Rate power	2000KW
AC voltage	Rate: 380V/400V, Range: 360V~440V
General data	
Size (W×H×D)	12192×2591×2438mm / 40 * 8.6 * 8 ft
Max. weight	17300kg
Noise	70dB
Degree of protection	IP54
Max elevation	6000m (derate over 3000m)
Operating ambient temperature	-20°C to 50°C (De-rating over 45°C)
Humidity	0~95% (No condensing)
Cooling	Smart air cooling
FIRE safety	ABC
Other	
AC connection	3-Phase 4-wire+PE at AC connection
Communication	RS485, CAN, Ethernet / MODBUS TCP/IP

40HC Battery Container



	20HC Battery container	40HC Battery container
Compatible battery system		
Max. capacity	1928kWh	4338kWh
Battery type	Lithium iron phosphate battery	
Battery voltage range	600~900V DC	
C rate	0.5,1C(Opt)	

	20HC container	40HC container
General data		
Size (W×H×D)	6058×2591×2438mm / 20 * 8.6 * 8 ft	12192×2591×2438mm / 40 * 8.6 * 8 ft
Max. weight	19327kg	37906kg
Noise	70dB	
Degree of protection	IP54	
Max elevation	6000m (derate over 3000m)	
Operating ambient temperature	-20°C to 50°C (De-rating over 45°C)	
Humidity	0~95% (No condensing)	
Cooling	Air conditioned with heater and dehumidifier	
Fire safety	FM200(HFC-227ea) or ABC	
Other		
AC connection	3-Phase 4-wire+PE at AC connection	
Communication	RS485, CAN, Ethernet / MODBUS TCP/IP	



Power station for beverage factory

Location: South Africa
Capacity: 1.5MW / 3MWh



Off-grid power plant for farm irrigation

Location: South Africa
Capacity: 1.5MW / 2.8MWh



Olifantskop farm irrigation project

Location: South Africa
Capacity: 630kW / 800kWh



Off-grid power plant for farm irrigation

Location: South Africa
Capacity: 1.5MW / 2.8MWh

Rayong water purification plant project

Location: Thailand
Capacity: 250kW / 583 kWh



Hybrid power station for factory

Location: Thailand
Capacity: 2.5MW / 2.5MWh



Micro system for village

Location: Myanmar
Capacity: 100kW / 200kWh



Kamphaeng phet solar farm storage system

Location: Thailand
Capacity: 250kW / 1.8MWh



Twin containerized power plant

Location: Singapore
Capacity: 300kW / 318kWh

Caymanas park off-grid solar plant

Location: Jamaica

Capacity: 1.7MW / 5MWh



America



Asparagus processing factory

Location: Germany

Capacity: 450kW / 464kWh

EUROPE



Containerized power station for office

Location: Poland

Capacity: 100kW / 138kWh



Hybrid power plant

Location: Poland

Capacity: 250kW / 500kWh