



NARADA Edge F-Outdoor Cabinet

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01

ESS Outdoor Cabinet



Narada Featured ESS Product — Outdoor Cabinet



Composition

- 11 Modules per cabinet in series
- Integrated Battery Management System
- HVAC with overhead air that directly targets the cabinet
- Fire suppression system optional
- Power distribution system
- Power inverter system

Key Features

- Small footprint, flexible configuration
- Fast procurement and contracting process
- Rapid delivery, construction, and commissioning

Specification

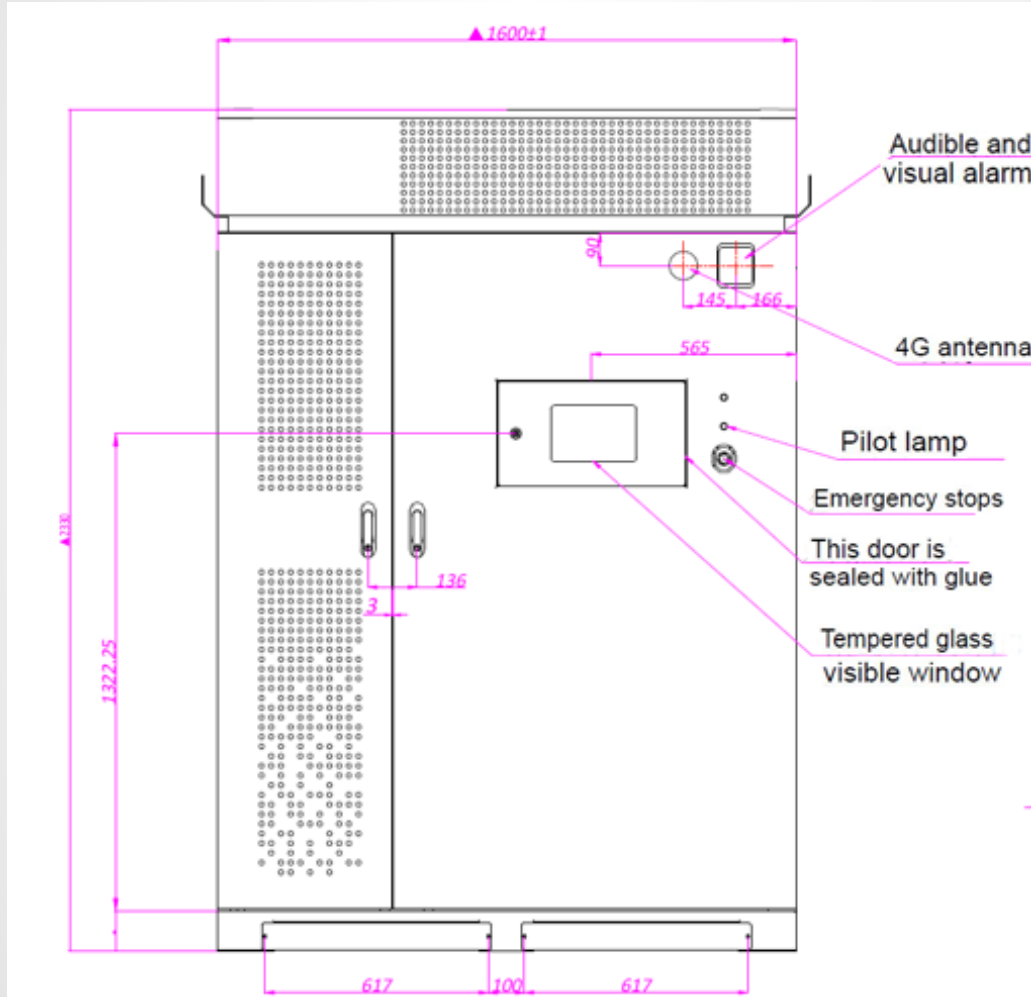
- LFP cell, 211.2kWh 844.8Vdc Battery Rack with 11 Modules
- Long cycle life @ 100%DOD
- C3/C4 options and IP54, UL/CE

Application

- Industry & Commercial, Micro-grid application
- Communication network/network integration services
- Power/backup power supply



General Characteristics of Outdoor Cabinet



	System	Parameter
Electrical	Battery Chemistry	LFP
	DV Voltage	844.8V
	Rated Energy	211.2kWh
	Voltage Range	739.2~950.4V
	Configuration of system	2P264S
Mechanical	Weight of cabinet	3000kg
	Dimension(W*D*H)	1600*2330*1200mm
	Degree of protection	IP54
	Operating temperature range	-20~55°C
	Relative humidity	0~95%
	Cooling concept	Overhead air conditioning
	Fire suppression system	Independent fire system
	Compliance	UL/CE



Battery Component Specification

ESS Cell

Cell Technology

1. Lithium Iron Phosphate

Best Lithium Option for BESS;
The safest Lithium technology for BESS

2. Stacking plates

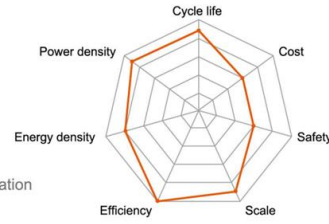
Stacking plates is good for high power operation and thermal dissipation

3. Prismatic Cell

Multi-layered Protection at cell level

4. Aluminum Case

Excellent Thermal Conductivity and Cooling Performance;
Safe and efficient heat release from inside to outside



Item	Condition / Note	Specification
Nominal Characteristics		
Capacity	Nominal charge / discharge at 25°C	≥125Ah@ 0.5C
Nominal Voltage	Average for nominal discharge	3.2V

ESS Battery Rack

Items	Characteristics
Number of Modules per rack	11
DC Voltage Range [Vdc]	739.2-950.4V
Size [W x D x H, mm]	500*938*1860 (2pcs)
Weight [kg]	1931
Total Rack Energy [kWh]	211.2
Rack IP (With door)	IP54
Rack Configuration	264S2P (264 series and 2 parallel)
Cooling	Air Cooling

ESS Module

Items	Characteristics
Rated Energy	250Ah (19.2 kWh)
Connections	2P24S
Nominal Voltage	76.8V
Mini Voltage	67.2V
Max Voltage	86.4V
Allowed Current	250A (0.5C)
Recommended Current	250A (0.5C)
Applications (Duration)	2h
Size (W*D*H)	400*864*265
Cooling	Forced
Weight	133.5kg

Features of Module & Rack Design

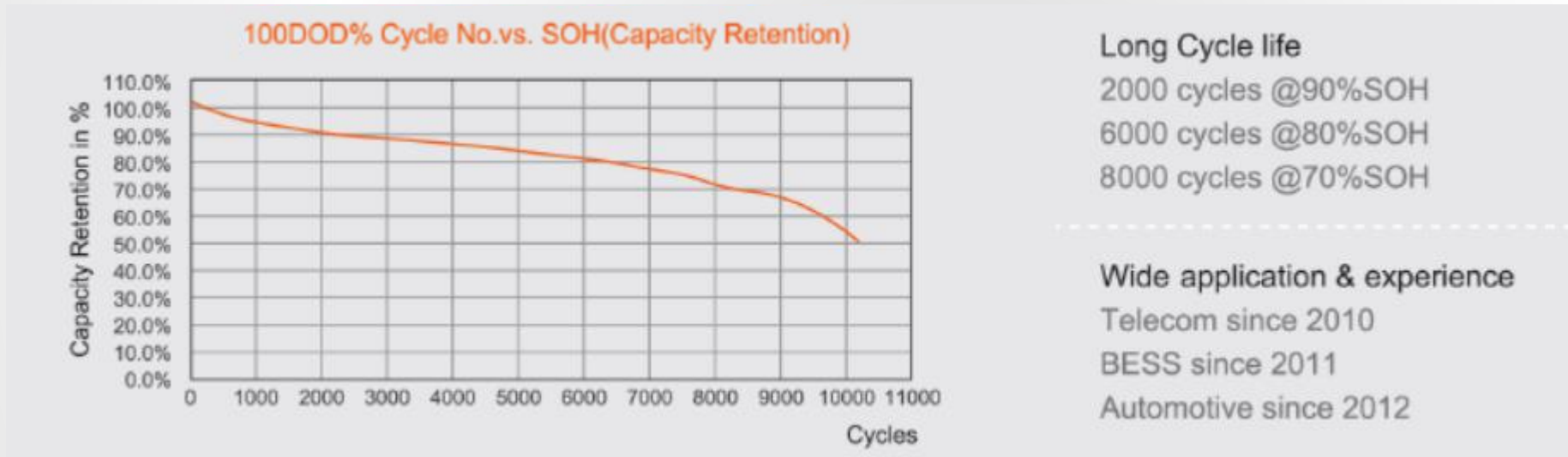
1. Platform Design for Energy, Medium and Power Solutions
2. 0.5C to 2C options available for Frequency regulation, Peak Shaving, Energy Reserve, etc
3. The Highest Energy density for LFP Energy Solution to optimize footprint and BOP cost
4. Passive & Active Thermal Ventilation System, Designed in both Module & Rack
5. Particular Considering for Containerized solution with proper aisle space
6. The Highest Lifetime Performance for Energy Storage System



Life Performance

Long Life and Wide Application & Experience

Wide application & experience on Telecon, BESS and Automotive, collecting knowing and innovating superior and adaptive technology.





02

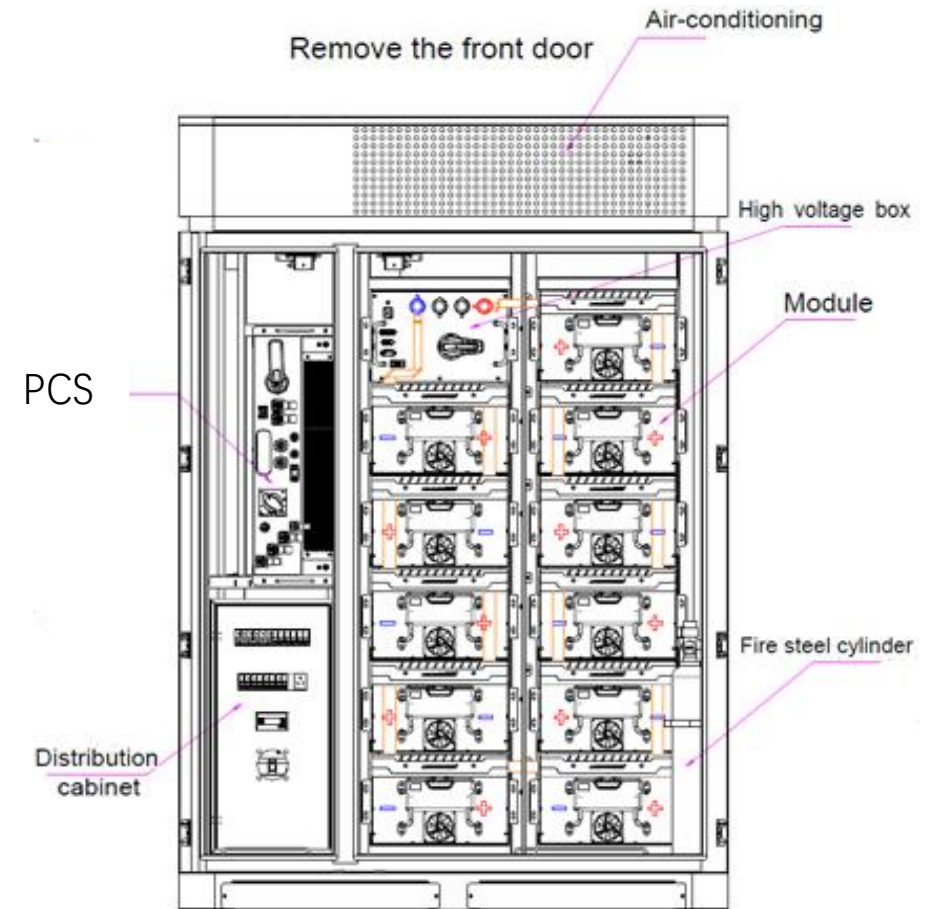
System Diagram



General Layout of Outdoor Cabinet

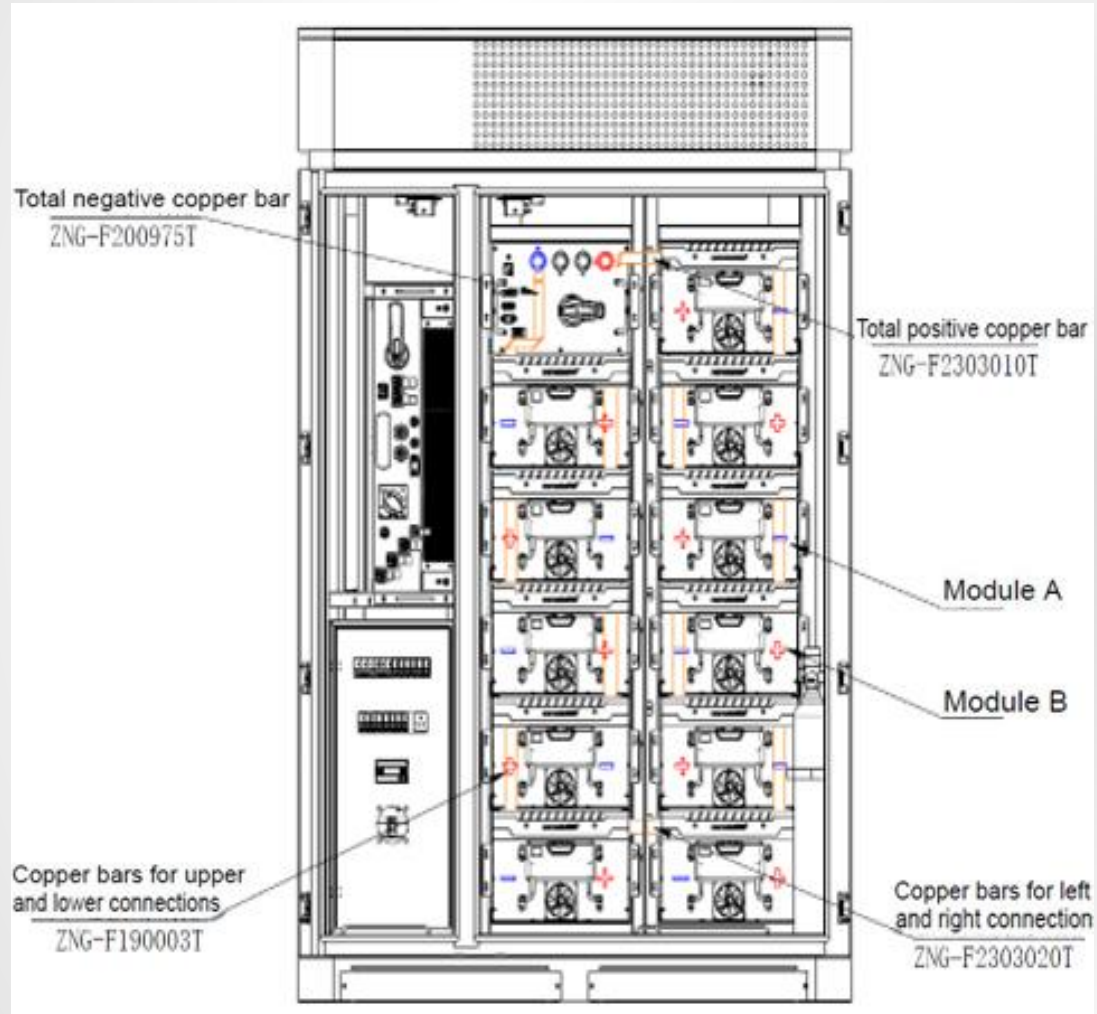
Container structure design

- 1) Container dimensions:** External dimensions 1600m*2330m*1200mm;
- 2) Waterproof:** The container door panel connected with the outside world with sealing strips;
- 3) Dustproof:** Standard ventilation filter easily replaced in the inlets and outlets to effectively prevent dust into the container;
- 4) Shockproof:** Ensure the mechanical strength under transportation and there will be no deformation, abnormal function, no operation after vibration, etc.





System Connection



Copper Busbar Connection: After all the modules and control box have been installed and secured, the bus bars connecting the battery modules into a single string.



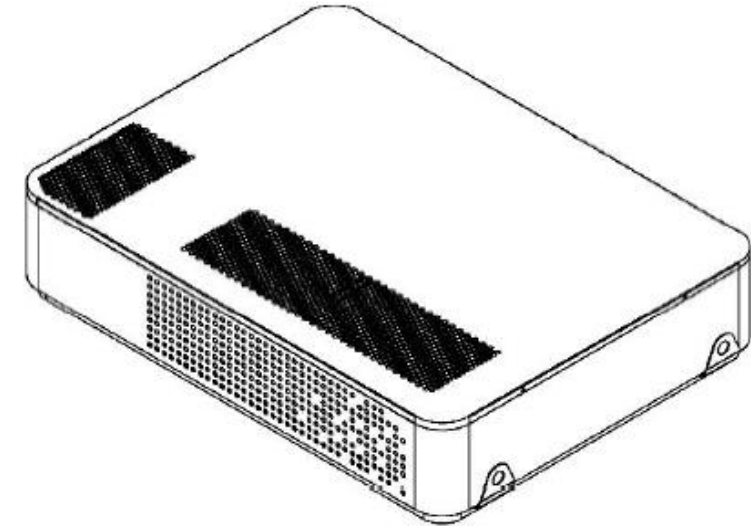
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Main Accessory



Thermal Management System

Model	AC			ECA-50CR-02CS5Z1-1225	
AC	Cooling capacity	kW		5	
	Heating capacity			2	
	Power	Cooling	2.3		
		Heating	2.3		
	Refrigerant	Model			R407C
		Filling quantity			
	Cooling ambient temperature			°C	-40 ~ 50
	Compressor Type			Rotary	
	Size	L(A)	mm	1600	
		W(B)	mm	1200	
		H(C)	mm	334	
	Color			RAL9017	
	Weight			kg	184
	Source			1Φ~220V/50HZ	
Anti-corruption			C4		



➤ Cooling testing:

- Indoor ambient: temperature 30°C.
- Outdoor ambient: temperature 35°C.

➤ Heating testing:

- Indoor temperature 20°C.

➤ C4:

- C4-outdoor fan; electrophoresis condenser; 180u coating frame; copper tubes with anti-corrosive paint



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Transportation & Lifting



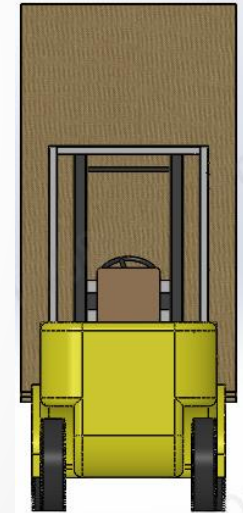
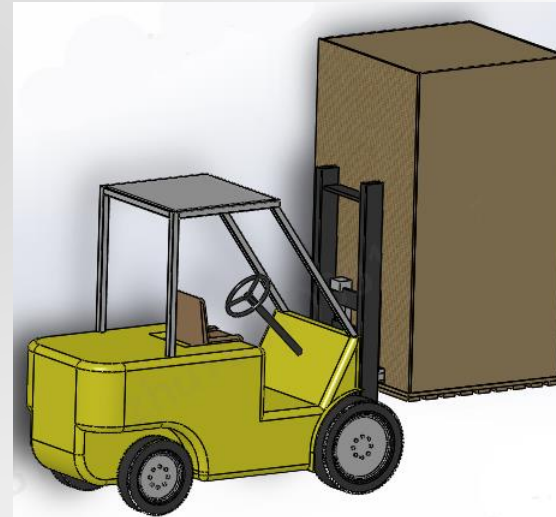
Transportation & Lifting

Transportation:

- Try to ensure good high-speed road conditions and low vibration;
- With wood thickness at the bottom of the container, fixed firmly with the cabinet;
- The iron hoist, the safety rope and the strap are fixed in place;
- Keep medium-speed driving, do not hurry, do not rush.

Lifting:

- The lifting of the outdoor cabinet needs to be carried out by professionals with professional lifting equipment. The lifting diagram of the cabinet is as shown with forklift.





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Prototype





THANKS FOR YOUR ATTENTION !

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