



LiFePO4 – All-in-One Liquid Cooled IP54 Cabinet

IONX Cube Series

SECTORS



COMMERCIAL & INDUSTRIAL



RESIDENTIAL COMPLEX



AGRICULTURAL

APPLICATIONS



SOLAR
INTEGRATION



ENERGY
ARBITRAGE



POWER
SECURITY

IONX



ion-x.co.za

UNLEASHING SUSTAINABLE POWER

PRODUCT INTRODUCTION

Smart Liquid-Cooling Energy Storage Cabinet

125 KW / 261 KWH All in one ESS Cabinet, scalable, install anywhere.

The smart liquid-cooled energy storage cabinet brings together advanced technologies including a battery cluster, bidirectional inverter, intelligent management systems, distribution unit, precise temperature control, and built-in fire protection.

Its modular design makes it easy to maintain, upgrade and expand, while delivering outstanding safety, exceptional reliability, fast deployment, superior energy efficiency, and intelligent, worry-free operation.



Product features



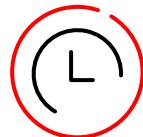
261kWh

ENERGY



10 Year

WARRANTY



10,000+

CYCLES



IP54

PROTECTION



3 Tier

MANAGEMENT

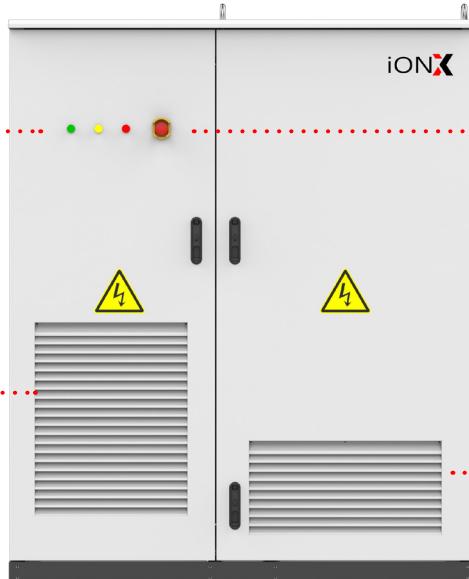


3 Tier

FIRE SAFETY

PRODUCT DETAILS

The iONX All-in-One unit is a compact solution with great advantages to cater for dropdown applications with sensitive environmental requirements.



Indicator Lights

Indicates the operating status of the energy storage system.

PCS Air Intake

Slotted vents for cool air to enter while keeping the IP54 rating.

Emergency Stop Button

Can be used to stop the system in case of an emergency.

Liquid-Cooling Air Intake

Air intake for battery liquid-cooling system radiator.

PCS (Power Conversion System)

125 kW AC output, 400 V, PF -1~1. Handles 1.1x overload (137 kW) for 10 min.

Fire Protection System

Fire extinguishing is automatically activated in the event of a smoke, gas or fire detection and alarming, preventing cascading.

MPPT

2 x 60kW MPPTs built in with 4 inputs each for multiple string connections.

Liquid Cooling Battery Pack

52.2 kWh modules, IP67-rated, 314 Ah cells with active/pассиве balancing. Includes safety valve, fire suppression, and liquid cooling ports.

LCD Touch Screen

Used to set parameters for the energy storage system and display its operating status.

Battery Management System (BMS)

Manages pack performance, safety, and data exchange to maximize battery utilization.

Built-in STS module

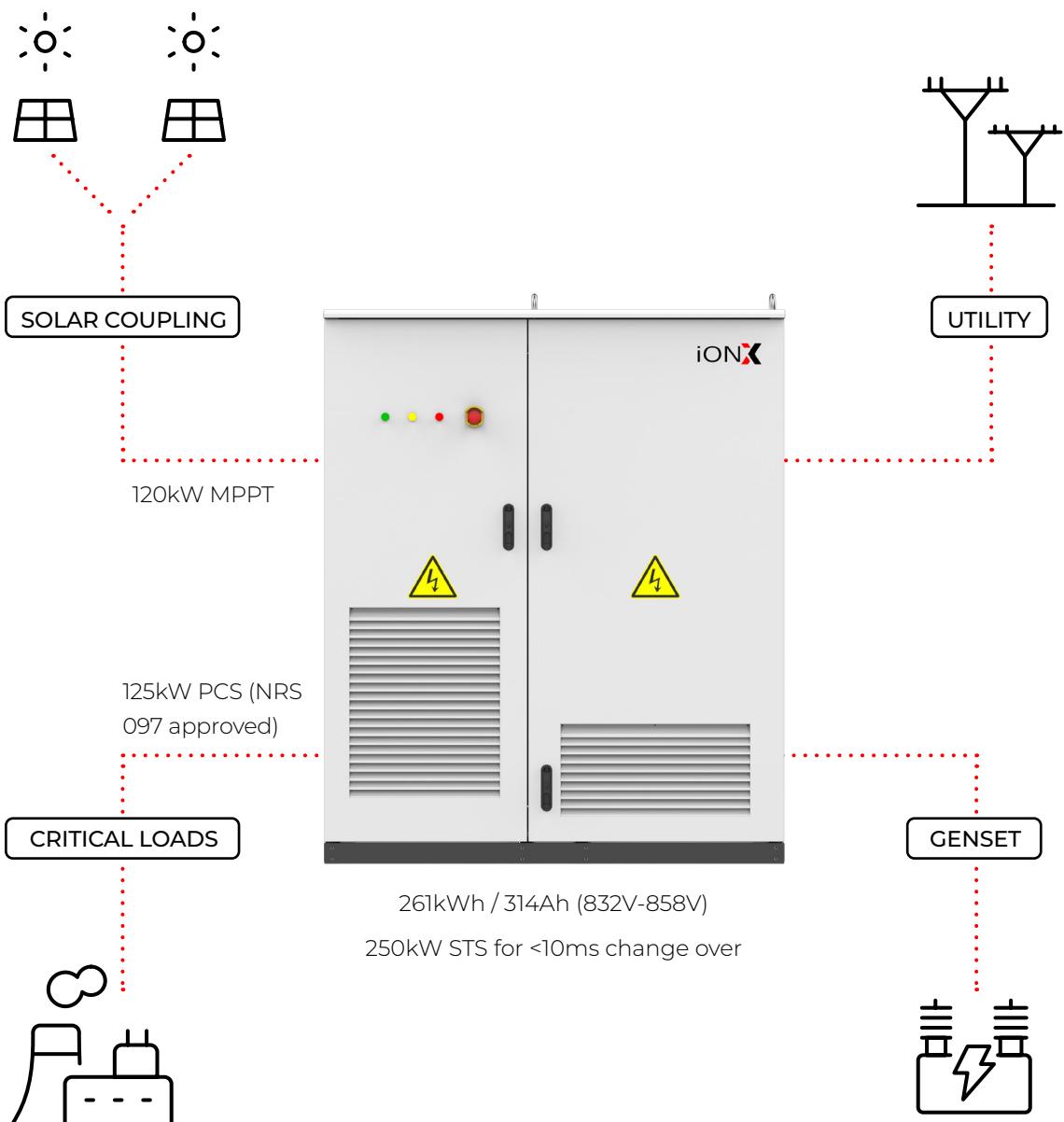
Connect Grid, Gen and load all inside the unit.

Liquid Cooling System

Provides heating/cooling, keeps PACK temperature in optimal range to boost performance and lifespan.

Static Transfer Switch (STS) information

The iONX All in One Unit has a STS included inside together with the PCS to realize seamless transfer between on-grid and off-grid modes automatically, it can also achieve automatic switching between diesel generator and the power grid.



- Seamless on/off grid transfer within <10ms
- ATS adopts TUV certified switch
- IP54 design Modular design for easy maintenance

SYSTEM MANAGEMENT

System Management & Control

The Cube Series EMS is a dedicated platform for managing commercial liquid-cooled cabinets. It collects and processes data from multiple interfaces (RS-485, CAN, IO ports) to monitor and control the entire system.

- Comprehensive Data Collection – Battery, PCS, cooling, fire protection, and auxiliary signals.
- Coordinated Control – Ensures safe operation with real-time protection and fault response.
- Flexible Operation Modes – Manual, economic, backup power, planned, and centralized control.

Battery & Remote Management

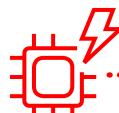
The EMS integrates with a three-level BMS to optimize battery performance and enable remote, intelligent management via a mobile platform.

- Battery Health Optimization – Real-time monitoring, cell-level protection, and SOX calculation.
- Integrated Safety Commands – Issues protective actions based on pack conditions.
- Remote Monitoring & Alerts – Intelligent scheduling, data analysis, fault alarms, and reporting.



Hardware

Robust integrated module, cluster and system hardware



Processing

Simplified internal protocol management, Algorithm models and cloud data security.



Remote Management

Easy remote multi-site management and monitoring, web-based and mobile application.

Cloud platform



- Real-time visualization at both **power station** and **equipment levels**
- **Centralized management** of multi-station operational indicators
- Seamless integration with **energy storage, photovoltaic, and charging equipment**, enabling unified monitoring and control
- **Flexible control strategies** configurable by time period, battery status, or load type
- Advanced **value mining, AI-based prediction, and decision analysis** powered by big data
- **Multi-operator access support** with complete data isolation for security and privacy
- **Customizable reporting**: generate daily, monthly, and annual operational and revenue reports with ease

Mobile platform

- Real-time monitoring of key parameters of energy storage equipment
- Early warning & alarm system with remote fault diagnosis capabilities
- Comprehensive reporting on charge/discharge data and revenue statistics
- Account permission isolation with support for both Chinese and English interfaces
- Remote mobile management of energy storage equipment and energy utilization



SPECIFICATIONS

☒ Off-grid, 4 units in parallel

☒ On-grid, 8 units in parallel

☒ Tier 1 A-Grade 314ah battery cell modules

Cube - 261		Specification
DC battery parameters	Cell type	EVE 3.2V/314Ah
	Battery pack configuration	1P52S/52.2kWh
	Battery system configuration	1P260S
	Voltage range	78VDC-936VDC
	Capacity	261kWh
	MPPT voltage range	150 - 1000Vdc
	Input current	45A * 8
	MPPT size	2 X 60kW MPPT modules
AC parameters (grid connection)	Rated power	125kW
	Max output power	137.5kW
	STS rated power	250kW
	Rated grid voltage	400VAC, -15%~+15%
	Rated grid frequency	50Hz/60Hz, 2.5Hz
	Power factor	-1 (leading) ~ (lagging)
	THDi	<3% (rated output power)
	AC connection	Three-phase-four-wire
System parameters	System efficiency	Max 90%
	Cooling mode	PCS Air cooling / PACK Liquid cooling
	Cycle life	10,000 cycles , 80%DOD*
	Operating temperature range	-20 °C ~ 50 °C (40 °C derating)
	Anti-corrosion level	C5
	Dimensions	1700W x 1350D x 2050H
	Weight	≤2.9T
	Fire Fighting	Aerosol (pack level + cabinet level)
	Ingress protection	IP54
	Intelligent monitoring	HMI
	Function	Peak-load shifting, Demand management, Anti-reflux, Multi-unit parallel

* Warranty T&C's apply



UNLEASHING SUSTAINABLE POWER



ion-x.co.za