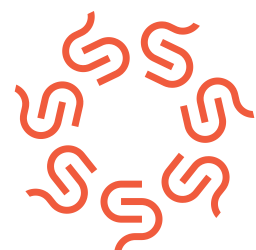




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EVERYONE DESERVES ENERGY

**Poweroad Renewable Energy Co., Ltd.**

18th Floor, F5 Building, Xiamen Software Park III, Jimei District, Xiamen, Fujian, China 361023

+86 592 5558101

sales@poweroad-ess.com

www.poweroad-ess.com / www.poweroad.com

DISTRIBUTEUR OFFICIEL DE

**POWEROAD**

contact@easypower.ma

www.easypower.ma



# Commercial & Industrial ESS Solutions

*Air Cooling / Liquid Cooling*



**Poweroad Renewable Energy Co., Ltd.**



# INTRODUCTION

## About POWEROAD

Founded in 2001, Poweroad Renewable Energy Co., Ltd. ("POWEROAD") is a high-tech enterprise focusing on the researching & development of lithium batteries and energy storage systems.

Catering to Commercial & Industrial ESS markets, POWEROAD has delivered more than 100 C&I energy storage projects and services globally by applying a complete pre-sales, sales and after-sales service system, with a commitment to make green energy accessible, supplying and connecting people and places all over the globe.

Utilizing advancements in BMS, EMS, and PCS technology, we've delivered our solutions in over 70 countries, amassing 800 MWh deliveries.

Backed by a comprehensive service model, POWEROAD's innovative products energize projects worldwide, including Asia, Oceania, Europe, Africa and South America. We offer a scalable energy storage footprint that can help even the most remote communities, striving to make more contributions towards a greener earth.

 **4GWh+**  
Annual Capacity

 **400+**  
Employees

 **23,500m<sup>2</sup>**  
Manufacturing Base

 **23 Years**  
Experience in Battery Industry

 **150 R&D Staff**  
in 5 Centers Nationwide

 **In-house 3-tier BMS**  
Own-developed BMS for C&I ESS

 **800+MWh**  
Global Projects Completed

## Partners

**CATL**

**KEHUA  
TECH**

**Sinexcel**

**DELTA**

# SCENARIOS



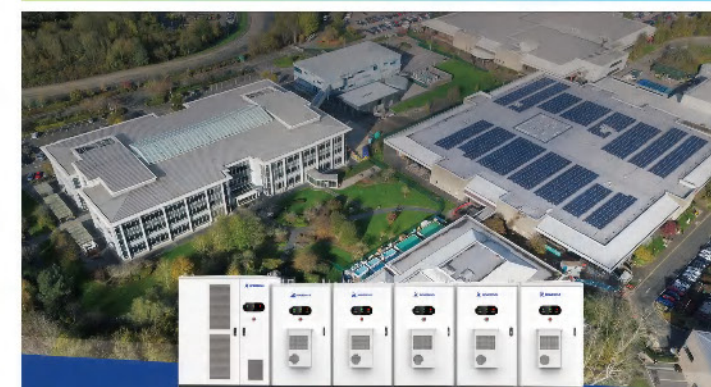
Solar Self-consumption



PV+ESS+EV Charging



Off-grid/Microgrid

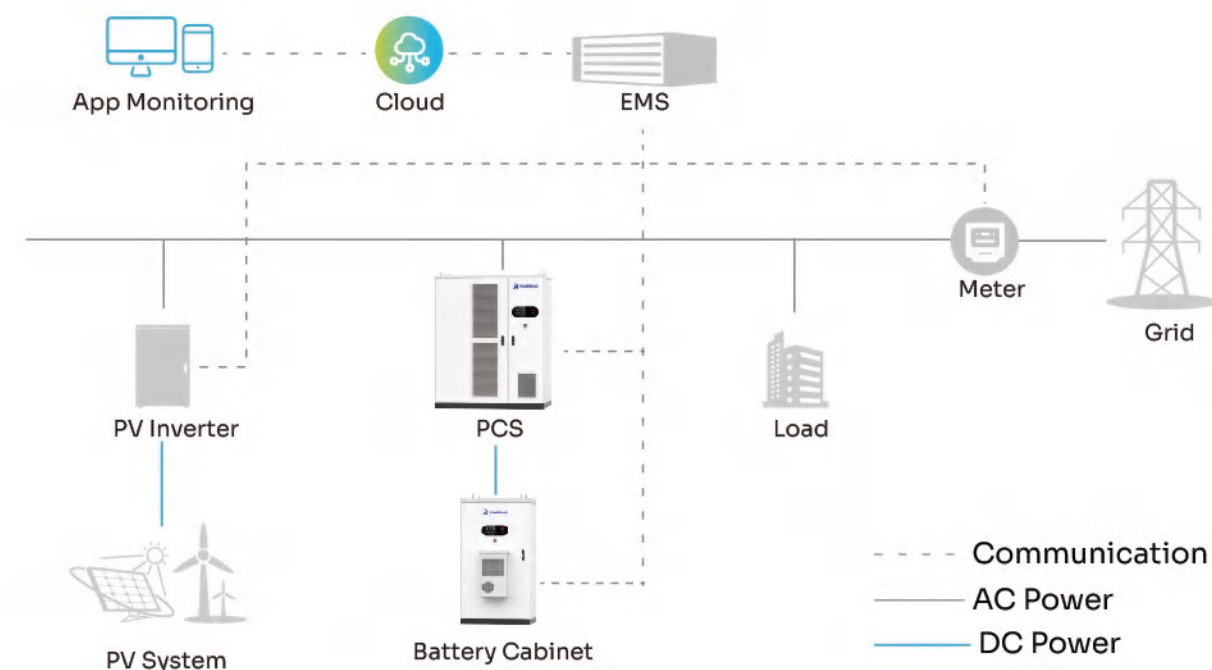


Demand Charge Reduction / Peak-shaving



Frequency Response Services

## Topology





# FLEX 233 All-in-one

Liquid Cooling Outdoor Cabinet ESS

TIER 1

## Tier-1 LFP Battery Cells

LFP cells with top-level safety



## In-House BMS

Own-developed BMS technology that optimizes the performance and lifespan of ESS



## Highly Integrated

Battery and PCS are integrated in an all-in-one system



## Modular Design

Available for flexible scalable up to 10 batteries



## Space-Saving

1.7 m<sup>2</sup> minimum space required



## Easy Installation

Small volume integrated modules in whole-package transportations enable simple installation & relocation



## Plug-and-Play

Pre-engineered and pre-tested systems allows plug-and-play on site



## Cloud Monitoring

Allows real-time monitoring and remote upgrade



## Capable for Harsh Environment

IP67 battery module design for extreme environment such as islands or rainforests



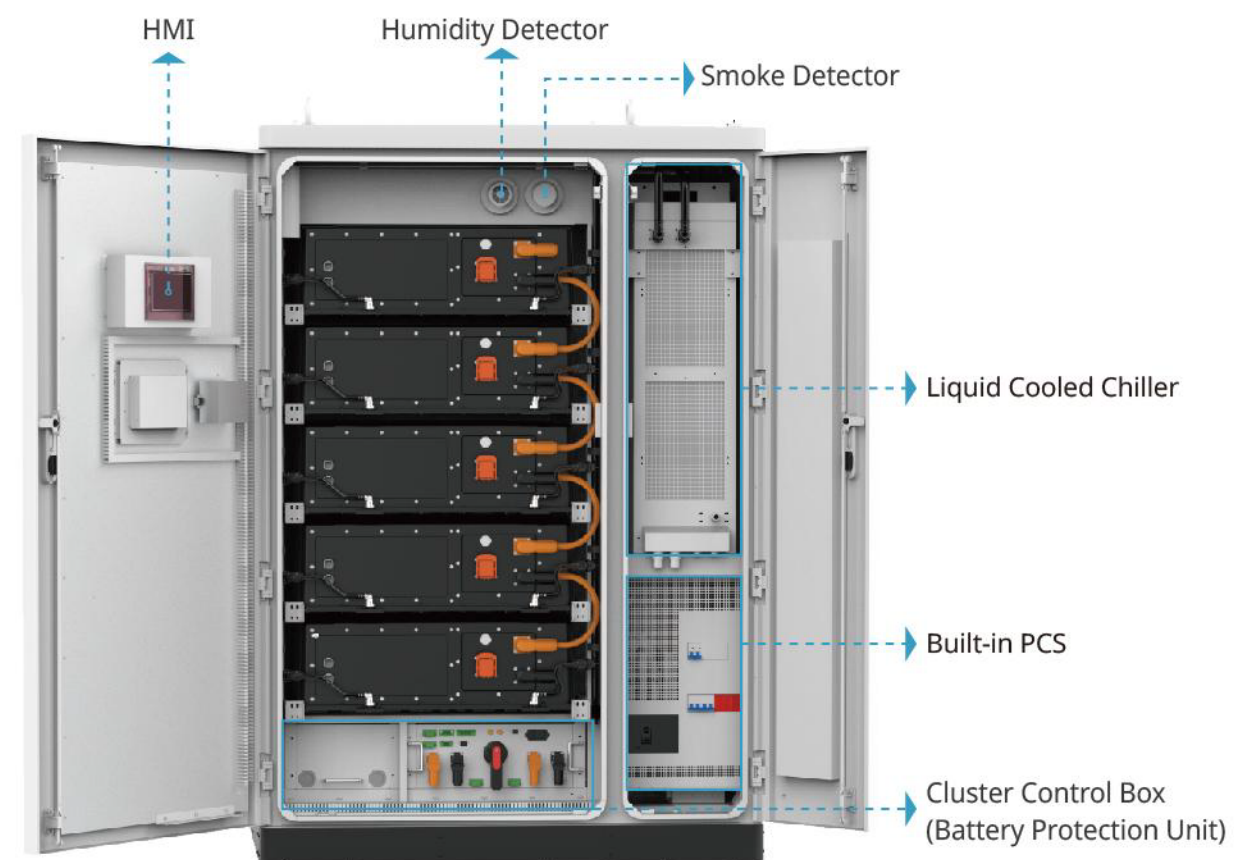
## Intelligent Liquid Cooling System

Intelligent leak detection and liquid supplementation with great cost-effectiveness

LCOE ↓

ROI ↑

# FLEX 233 LAYOUT





# FLEX 233 CONFIGURATION



FLEX 233 (All-in-one) ESS Configuration Suggestion

BATTERY	Number of Battery Cabinet	Battery Capacity (energy)										
	10	2.33 MWh										
	9	2.10 MWh										
	8	1.86 MWh										
	7	1.63 MWh										
	6	1.40 MWh										
	5	1.17 MWh										
	4	932 kWh										
	3	699 kWh										
	2	466 kWh										
PCS	PCS (Modular)	PCS Power	100 kW	200 kW	300 kW	400 kW	500 kW	600 kW	700 kW	800 kW	900 kW	1000 kW
		Number of PCS module	1	2	3	4	5	6	7	8	9	10

# FLEX 233 PARAMETERS

	Items	FLEX-233
AC Parameters	Rated Power	100 kW
	Maximum Power	110 kW
	Grid Type	3W + N+PE
	Rated Grid Voltage	380 V / 400 V
	THDi	≤ 3%
	Grid Frequency	50 / 60 Hz
	EMC & Safety Standards	IEC61000, IEC 62477
	Grid Connection Standards	EN 50549-1, G99, AS/NZS 4777, VDE 4105 CEI-016, CEI-021, NRS097, C10/11
DC Parameters	Rated Voltage	832 V
	Voltage Range	728 V ~ 936 V
	Rated Capacity	280 Ah
	Rated Energy	233 kWh
	Charge/Discharge Rate	0.5P / 1P
Other Parameters	Degree of Protection	IP 55
	Operation Temperature	-30 ~ 55 °C
	Storage Temperature	-30 ~ 60 °C
	Altitude	≤ 3000 m
	Relative Humidity	5%~95% (No condensing)
	Cooling Method	Liquid cooling
	Fire Suppression System	Aerosol
	Communication	MODBUS TCP / IP
	Dimensions (W × D × H)	1350 x 1300 x 2050 mm
	Weight	2.6 t

