



**BATTERY ENERGY STORAGE SYSTEMS**

**Blue Planet Line**



*terra*

The **TERRA** model is a compact energy storage that offers a higher added value and a comprehensive set of usable functionalities for smaller renewable applications.

#### KEY FEATURES



Build-in control system with machine learning algorithms



Compact block for quick installation and commissioning



Serially manufactured standardized product



24/7 monitoring and tracking key performance indicators to ensure high availability (up to 99.5%), operational reliability and low service costs



Top technology that ensures a high number of cycles and low degradation of the system with low service costs

#### KEY APPLICATION



Cooperation with renewable resources to cover imbalances in their operation



Peak shaving application for electromobility charging points to cover peaks in consumption demand



Optimization of electricity consumption at a time of a more advantageous economic tariff



Use of battery flexibility as a source of additional revenue through virtual power plant concepts

Lifetime

**15+ years**

Capacity

**151kWh**

Power

**50-100kW**

## PERFORMANCE PARAMETERS

POWER OUTPUT	Nominal power	50-100kVA
	Manufacturer	KACO
	AC output voltage	400V+-10%
	Nominal frequency	50Hz
	Max load capability	100%
	Cos fi (adjustable)	-0.3/+0.3
	Efficiency	>97.5% (charge) >98.2% (discharge)
BATTERY BLOCK	Cooling type	forced air
	Size (D*W*H)	760*500*425mm
	Weight	75kg
	Nominal capacity	151.6kWh
	Manufacturer	KOKAM
	Chemistry type	Li ion NMC
	C-rate	up to 2.0
	Battery cell type	103Ah
	Depth of discharge	90%
	Guaranteed cycle life	8000@80%DoD 6000@90%DoD
SYSTEM PARAMETERS	Residual capacity	70%
	RTE efficiency	>95%
	Fire safety system	aerosol / Firepro
	Cooling type	HVAC
	Weight (1module)	96kg
	Reaction time	<500ms
	Ramp up time	<1s
Total RTE efficiency	>89.6%@20°C,80%DoD	
Connectivity	LTE/ethernet	
Protocol	Modbus TCP	
Control system	AMOS (own developed)	
Grid standard	ENTSO-E complian.	

## SYSTEM FUNCTIONALITIES

Peak shaving  
Cooperation with PV&WPP  
Price arbitrage  
Cos fi control

## MECHANICAL SPECIFICATIONS

Standard color scheme	RAL7035 (option to any RAL colour scheme design)
System size in mm (D*W*H)	2410*2380*1181
System weight	2200kg (50kW) 2300kg (100kW)

## ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-20/+40°C
Operating altitude	<2000m
Environment	outdoor
Ingress rating	IP54
Noise level	<40dB@5m
Operating humidity (RH)	30-95% noncond.

## STANDARD EQUIPMENT

Isolated containers, temperature management, fire safety system, energy management system, HVAC, backup UPS, communication interface, AC grid protection unit, battery racks, inverter units, all cabling, commissioning, first set-up functionalities with client, related engineering for project design

## WARRANTY

Technical service life	15+years
Degradation warranty	15 years
Technology warranty	2-3 years

## CERTIFICATION

EN61439-1, EN61000-6-2, EN61000-6-3, EN50581, EN62485, EN62619, EN62620, EN63056, ISO14121-2, UL1642, U1973, UN38.3

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