

Containerised Storage Systems

freedom
WON



Convenience and Power Contained

CONVENIENCE AND POWER CONTAINED

Big Business requires attention to detail, solutions orientation, and a futuristic outlook to ensure success. All the things that make the Containerised Storage Systems range the ideal energy partner to any commercial and industrial application.



ABOUT FREEDOM WON

Freedom Won is the largest original equipment manufacturer (OEM) of advanced energy storage solutions in Africa. Offering BESS (Battery Energy Storage System) solutions for home, business, commercial and industrial applications. The steady growth of the renewable energy sector has seen Freedom Won continuously expanding its operations since it began in 2010.

Our commitment to innovation and sustainability has driven our growth and success, enabling us to deliver reliable and efficient energy storage solutions globally. Freedom Won is dedicated to accelerating the adoption of renewable energy technologies and contributing to a sustainable future.



We Believe

In an imminent future without dependence on fossil fuel, where everyone has the freedom to choose sustainable and environmentally friendly energy.

Brief background on Freedom Won Containerised Storage Systems (CSS):

Freedom Won has a long history of providing commercial and industrial markets with the fastest and most economical route to installed energy storage systems that are complete and pre-commissioned. Previously, the size and combination of components in a containerised system depended on each specific application.

Through market research and tried-and-tested methods, Freedom Won now introduces a "plug-and-play" container storage range: The Freedom Won CSS. This range includes several options with various battery/inverter configurations, designed to suit medium to large commercial and industrial (C&I) operations in any climate and environment.



ABOUT THE CSS

Discover the unparalleled excellence of Freedom Won CSS, where innovation, quality, and customer satisfaction converge to redefine the containerised energy market. Backed by a team of seasoned engineers and industry experts, Freedom Won consistently pushes the boundaries of possibility in containerised energy solutions. Our customer-centric approach guarantees solutions that match the unique energy requirements of businesses.

The Freedom Won CSS is not just an energy storage solution; it's a powerful container designed for "plug-and-play" convenience.

Available in 6m, 12m, and "18m" (12m+6m) sizes with predefined capabilities, it offers businesses the ability to generate, store, manage and scale their own energy effortlessly. With its robust construction and advanced features, it is the perfect choice for a wide range of commercial and industrial applications.



ADVANTAGES

ADVANTAGES

Pushing the boundaries of **possibility** in the
containerised energy solutions market

MODULAR DESIGN



"PLUG 'N PLAY"



EASE OF INSTALLATION AND USE



PHASED EXPANDABILITY



ENHANCED SAFETY FEATURES



ADVANCED BATTERY TECHNOLOGY



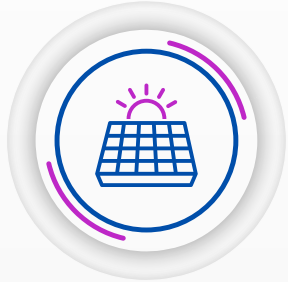
INTELLIGENT MONITORING



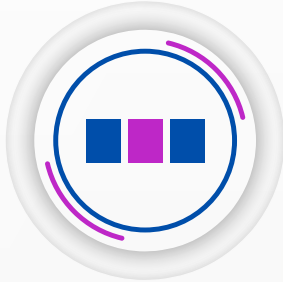
KEY FEATURES AND BENEFITS

Boasting a range of key features that **set it apart** from other containerised **energy solutions**

KEY FEATURES



Solar Ready



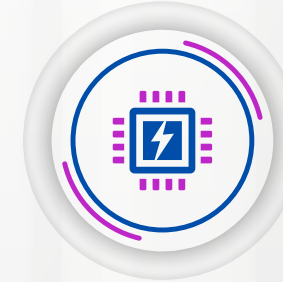
Modular Design and
Phased Expansion



High Energy
Density



Advanced Battery
Technology



EMS - Smart Energy
Management and
Remote Support



Integrated Fire
Detection and
Suppression

BENEFITS



Cost Savings



Energy
Independence



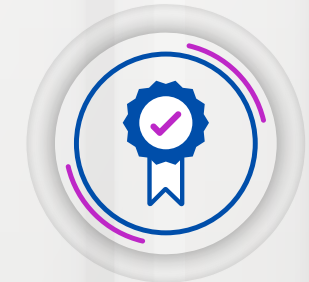
Environmental
Sustainability



Reliable Power
Supply



Ease of
Installation



10 Year Warranty on
Batteries and Inverters

EMS INTEGRATION



Device
Agnostic



Remote
Monitoring



Seamless
Integration

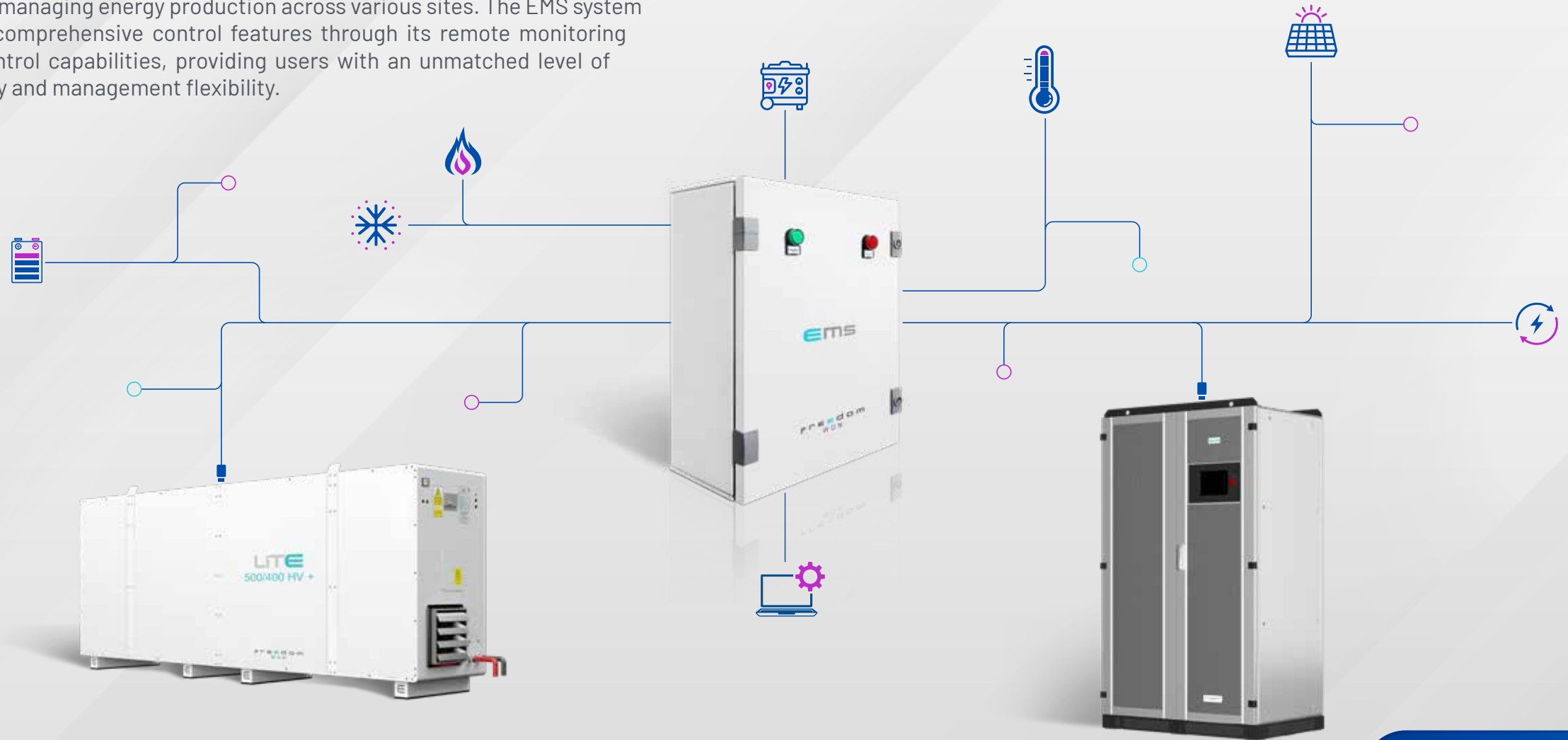


Comprehensive
Management

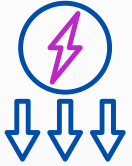


Site
Support

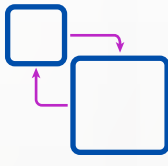
The Freedom Won Energy Management System (EMS) represents a pivotal shift in managing energy production across various sites. The EMS system offers comprehensive control features through its remote monitoring and control capabilities, providing users with an unmatched level of visibility and management flexibility.



Experience the **power** of the Freedom Won Containerised Storage System



Peak
Shaving



Load
Shifting



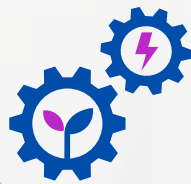
Time of
Use



Energy
Arbitrage



Efficient Energy
Consumption



Reduced Carbon
Footprint



Back-up
Power



Protection from
Energy Cost Escalation

SPECIFICATIONS




Click for more info

Series (Base Building Block)	6M-200-100			6M-300-150			6M-200-150	12M-300-150	12M-500-250	12M-500-500		12M-885-500	18M-664-500	18M-885-500
Model	6M-200-100-1.1	6M-200-100-2.1	6M-200-100-2.2	6M-300-150-1.1	6M-300-150-2.1	6M-300-150-2.2	6M-200-150-2.2	12M-300-150-4.2	12M-500-250-2.1	12M-500-500-2.1	12M-500-500-4.1	12M-885-500-2.2	18M-664-500-4.2	18M-885-500-4.2

Product Overview														
Total Storage [kWh]	200	400		300	600		400	1200	1000		2000	1770	2656	3540
Max. Power [kW]	100		200	150		300			250	500		1000		
Expansion Options ²	6M-200-100-2.1 or 6M-200-100-2.2	6M-200-100-2.2	N/A	6M-300-150-2.1 or 6M-300-150-2.2	6M-300-150-2.2	N/A		12M-300-150-6.2 (on demand)	12M-500-250-4.2 (on demand)	12M-500-500-4.1	N/A		18M-885-500-4.2	N/A
Certifications	EN62109-1/-2, EN62477-1, EN61000-6-2, EN61000-6-4, South Africa NRS097-2-1:2017, IEC61727, IEC62116, IEC 61683													
Warranty ³	10 Year on Battery / 10 Year on Inverters / Back-to-back on Sundry Items													
BMS Communication	RS485, CAN													
EMS Communication ⁴	RS485, TCP/IP													
Value-Added Features														
Deployment	Plug-and-play													
Cable Entry	Bottom and side entry (Glanding plate provided)													
Monitoring and Control	Freedom Won EMS with 1-Year Cloud Software License for 5 Devices - Online monitoring, data logging, remote control capability, power meter integration and 3rd party PV string inverter control													
Fire Detection and Supression	Fire detection panel (EN 54 approved), smoke detectors, indicator bell and siren; high sensitivity smoke detection air sampler (HSSD)													
	Inert gas fire suppression for the electrical risk (IG541)													
	All approved to BS EN 15004 with the design concentration of higher-class A for electrical risk and verified by an approved test report and approval BSI (British Standard Institution)													
AC In and AC Out (Termination Box)[A]	315			500					800			1600		

Container Specifications														
Grade	Grade A													
Material	COR-TEN steel - White													
Size [m]	6							12				1 x 12 and 1 x 6		
External Height [mm]	2884													
Weight Estimate [kg]	7320	8860	10000	8310	10680	11990	10330	18490	15900	17490	25320	25480	25290 + 11560	29720 + 11560
Cladding	Fluted Chromadek - White													
Insulation	50mm Rock Wool													
Flooring	Light grey 3mm polyurethane rubberising													

Battery Specifications (per battery building block)									
Battery Chemistry	Lithium Iron Phosphate (LiFePO4)								
Battery Model 	200/160 HV	300/240 HV	200/160 HV	300/240 HV	500/400HV+	megaTower Plus 6M4T 885kWh	megaTower Plus 6M3T 664kWh	megaTower Plus 6M4T 885kWh	
Nominal Voltage [V]	512				640		691		
Service Life	>16 years (>5 500 cycles) expected life at 80% DoD per cycle, >20 years (>7 500 cycles) at 50% DoD					>15 yrs (>8 000 cycles) at 80% DoD			


SPECIFICATIONS



[\(i\) / \(i\)](#) Click for more info

Series (Base Building Block) (i)	6M-200-100			6M-300-150			6M-200-150	12M-300-150	12M-500-250	12M-500-500		12M-885-500	18M-664-500	18M-885-500
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Inverter Specifications (per inverter building block)

Inverter Make and Type	Encore HPS Hybrid Inverter									
Inverter Model 	HPS100			HPS150			HPS250	HPS500		
Nominal Output Voltage [V]	400									
Rated Outut Power [kW] ⁵	100	200	150	300	250	500	1000			
AC Connection	3W+N+PE									
Output Frequency [Hz]	50/60									
THDi/THDu [%]	<3 / ≤1 linear; or ≤5 nonlinear									
Power Factor	1 lagging~1 leading									
Standby Power [W]	<20									

Optional PV Components (maximum possible values/quantities stated)

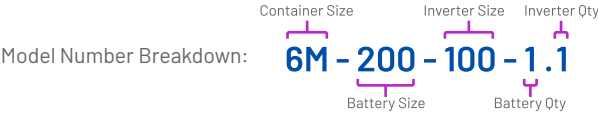
MPPT Charge Controller Specifications

MPPT Mode	Buck MPPT				Boost MPPT		
Max. Number of MPPT Modules ⁸	3	6	4	8	5	10	20
Max. MPPT Power[kW]	60						
Max. PV Power [kW]	240	480	240	480	360	720	1440
Recommended PV Input Voltage Range [V]	600~880				450~650		
Max. Number of Charge Controller Cabinets	Built into inverter				1	2	4

Photovoltaic Combiner Specifications

PV Coupling	DC							
Max. Number of PV Strings	1 x 24	2 x 24	1 x 24	2 x 24	1 x 48	2 x 48	4 x 48	
Max. PV Input Voltage [V]	1000							
Max. Input String ISC [A]	20							
Input Fuse [A]	25							
Max. Number of Outputs (Breakers)	4	8	4	8	6	12	24	
Max. Number of Strings per Output	6				8			
Output Breaker Rated Current [A]	125							
Output Cable Terminal [mm ²]	35							
PV SPD Specification [V]	1200 (Type I + Type II)							
Protection	Short-circuit, overload and surge							

SPECIFICATIONS



[i](#) / [i](#) Click for more info

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Ordering Information

Lead Time	6-8 Weeks
Customisation Options ⁷	Advanced EMS features and additional device licenses available

Notes to Specification Sheet

1. CSS base models include batteries, inverters, fire detection and suppression systems, and the Freedom Won EMS. PV components such as MPPTs, MPPT cabinets, and PV combiner boxes are sold separately.
2. If an expansion option is required that is not currently available as a standard model option, please inform Freedom Won of this requirement.
3. See relevant battery and inverter warranties for further details on warranty guarantees and conditions.
4. To enable EMS functionality on the load and main supply, RS485 or Modbus TCP compatible 3-phase power meters are required. Additionally, they must have an auxiliary power supply. All third-party devices must also be TCP/IP and Modbus TCP compatible to communicate with the EMS.
5. Any motors exceeding 7% of the selected HPS inverter's power rating must be fitted with a VSD. The total connected inductive load without VSD's may not comprise more than 15% of the HPS inverter's rated power.
6. Please refer to the HPS specification sheets for the maximum number of MPPT charge controllers compatible with each HPS inverter model.
7. Additional EMS features and device license are available upon request, please contact Freedom Won for more information.

12M CONTAINER FEATURES



Encore HPS Charge Controller Cabinet



Encore HPS Hybrid Inverter



LiTE 500/400HV+ BESS



Under Ceiling Air Conditioner



12M-500-250-2.1 Model Illustration



Freedom Won PV Combiner Box



Freedom Won EMS



Cable Entry by Termination Box



Advanced Fire Suppression System

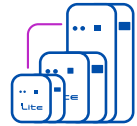


Freedom Won in Statistics



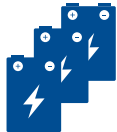
**MANUFACTURING
CAPACITY**

3000MWh pa



**BATTERIES
MANUFACTURED**

>150 000 units to date



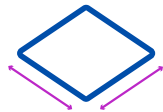
**CELLS
USED**

10 million units to date



**PRODUCT
RANGES**

11 Unique product ranges



FLOORSPACE

48 000m²



EMPLOYEES

508



WHY CHOOSE FREEDOM WON



Local Engineering Design and Manufacturing

Freedom Won has a wealth of knowledge and engineering ingenuity that results in innovative solutions for the future.



Local Engineering and After-Sales Support

Freedom Won has a wealth of knowledge and engineering ingenuity that results in innovative solutions for the future.



Ongoing Research and Development

We continuously develop our products and solutions to surpass industry norms, establishing relationships with key technology partners.



Network of Distributors

Our service excellence has been put to the test for over 10 years, with a large network of distributors in Africa.



Time-Tested Solutions

With a proven track record and rigorous tests performed on our products, performance and reliability are guaranteed across all of our ranges.

BECOME INDEPENDENT TODAY



Give us a **call**

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Send us an **e-mail**

enquiries@freedomwon.co.za



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