



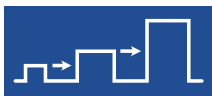
**BESS PowerBox 1MW/1,1MWh**

**400V**



## BESS PowerBox products

- LPF batteries with long life time
- 80% Retention with 5,000 cycles
- Optimized for use in the flexibility markets
- Colour RAL 7035 (possible to order other colours)
- Can be delivered with end wall for profiling
- EMS ready with Modbus interface
- Delivered with EMS for service agreement functionality
- 5-years warranty



### Scalable

Capture Energy delivers modular and scalable battery energy storage systems (BESS) in containers, the BESS PowerBox solutions with capacities ranging from 250kWh to 2MWh, and these can be integrated to create large BESS installations.



### Wide range of use

The BESS PowerBox can be used for a wide range of services, enabling savings through a combination of optimised use of solar energy, peak shaving, arbitrage and participation in flexibility markets.



### Flexibility / frequency

BESS PowerBox can be unleashed on the rapidly growing frequency market (FFR and FCR-D) in the Nordic countries, and integrated with any flexible trading platform of your choice, can help realise your financial goals.



### EMS ready

The BESS PowerBox controller can be easily integrated into higher-level energy management systems, for compact and flexible energy storage with optimal capacity and performance.



### Easy to install

Capture Energy can meet your energy storage needs both today and in the years ahead by maintaining a low implementation threshold. Capture Energy offers BESS PowerBox systems that are easy to install, manage, adapt and expand.



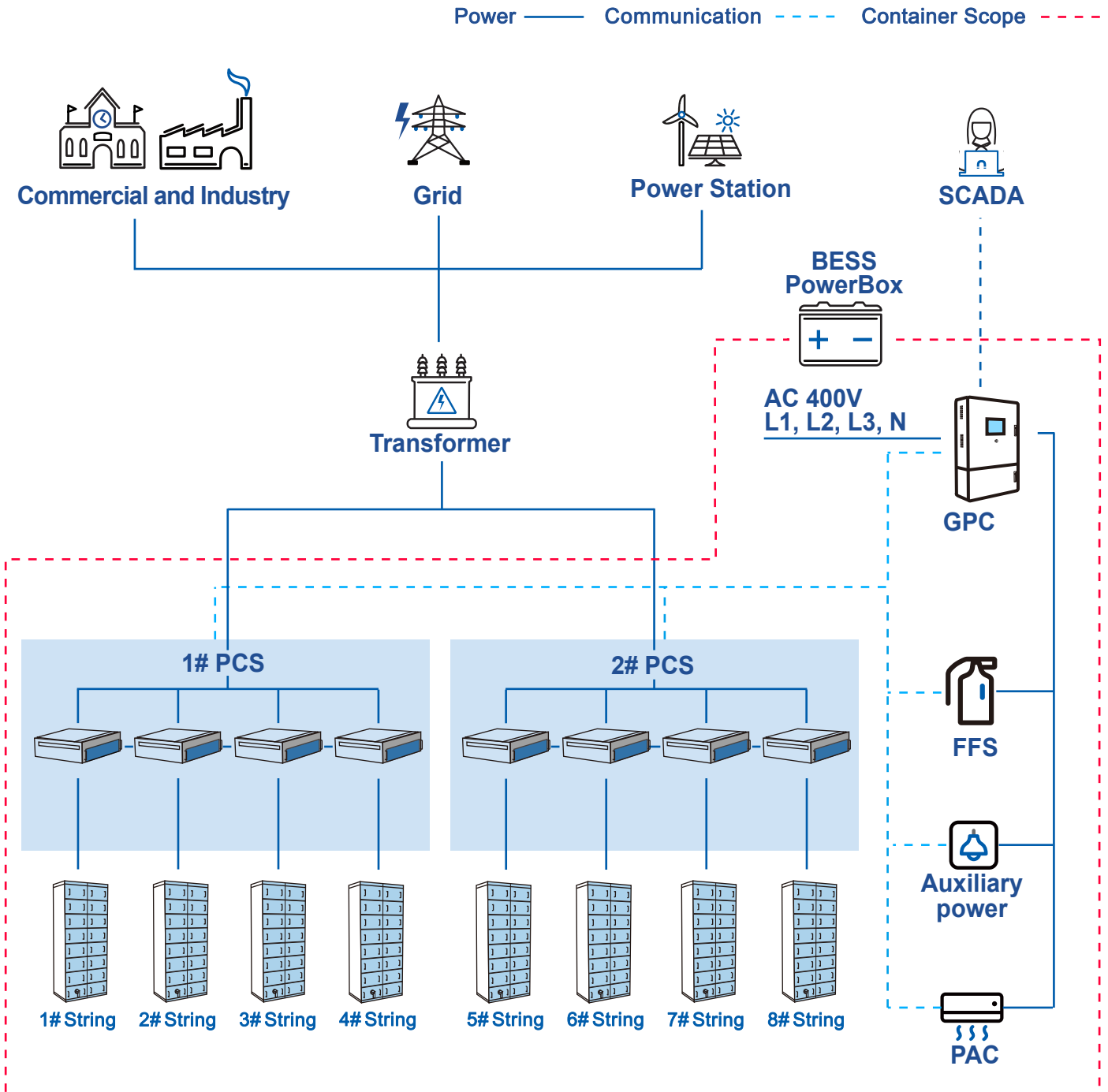
### Best service

At Capture Energy we are dedicated to delivering technology that will enable us all to achieve our sustainability goals. Our ambition is to be the best in terms of delivery time, project management and service agreements that ensure fast delivery and trouble-free operation.



# BESS PowerBox 1MW/1,1MWh (400V) 1C Charge/Discharge

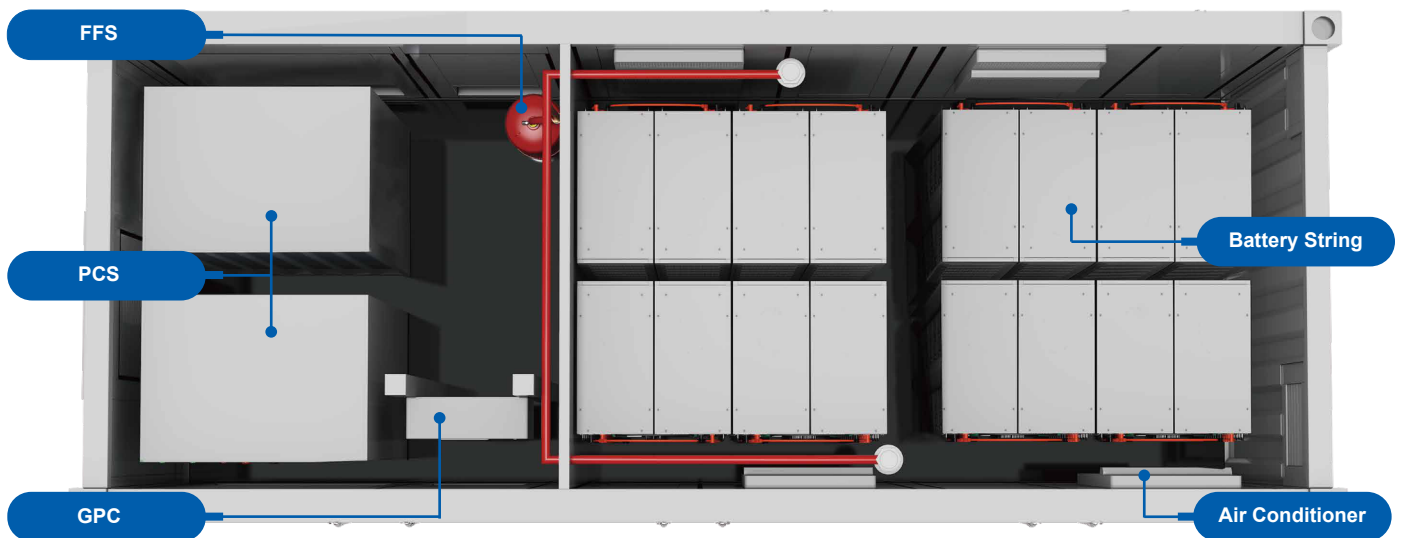
## System Topology





**BESS PowerBox 1MW/1,1MWh (400V)  
1C Charge/Discharge**

**Product Layout and Configuration**



Product Model	Battery String Type	Nominal Capacity	AC Connection	Isolation	Grid-Connected Voltage	Dimensions (WDH mm)
BESS PowerBox 1MW/1,1MWh	138-15-9	1,104kWh	3-Phase 3-Wire+PE	Without Transformer	400V	6,058x2,438x2,591mm

# System Technical Specifications

## BESS PowerBox 1MW/1,1MWh

DC Data	
Battery chemistry	Lithium Iron Phosphate (LFP)
Cell life cycle	80% Retention with 5,000 Cycles @ 1C 25°C
Cell spec	3.2V/90Ah
String configuration	2P240S
Number of strings	8
Rated energy capacity	1.1MWh
DC rated energy capacity	1,105.92kWh
Rated voltage	768V
Voltage range	672V~852V
BMS communication interface	RS485, Ethernet
BMS communication protocol	Modbus RTU, Modbus TCP
AC Data	
Rated AC power	1,000kW
Maximum AC power	1,100kW
Rated voltage	400V
Grid voltage range	342~418V (Configurable)
AC rate of current	2 * 759.6A
Output THDi	<3%
AC PF	0.1~1 leading or lagging (Controllable)
AC output	3 Phase 3-Wire, PE (Without Transformer)
General Data	
Dimension w/o clearances (L*W*H)	6,058x2,438x2,591mm
Weight of the whole system	19t
Degree of protection	IP54
Operating temperature range	-10~40°C
Relative humidity	0~95% (Non-condensing)
Max working altitude	2,000m/6,500feet (Non-derating)
Cooling concept of DC hatch	PAC
Fire fighting system	FK-5-1-12/FM-200
Integration interface	Modbus
Communication interfaces	RS485, Ethernet, 4G/3G (Only for Capture Energy)
Certificates	UL9540, UN3536



# Key Components



- 1C Charge/Discharge
- Power supply can be single battery string or parallel battery strings



- Single-stage three-level modularization
- Multi-branch input to reduce battery series and parallel connection



- All-round signal collection
- Comprehensive logical control
- Multilevel electric & control protection
- Intelligentize Communication management

## Battery String-138

Item	Data
Battery module	138-15-9
Pack QTY	15
Nominal capacity	138.24kWh
Rated voltage	768V
DC voltage range	672V~852V
Pack	51.2V/180Ah@2P16S
Communication	Ethernet, CAN, RS485
Lifespan	>5,000 cycles@1C, 25°C
Dimensions (W×D×H)	800×750×2,050mm
Weight	1,467kg
Certificates	UL1973, UL9540A, IEC62619, CE, UN38.3

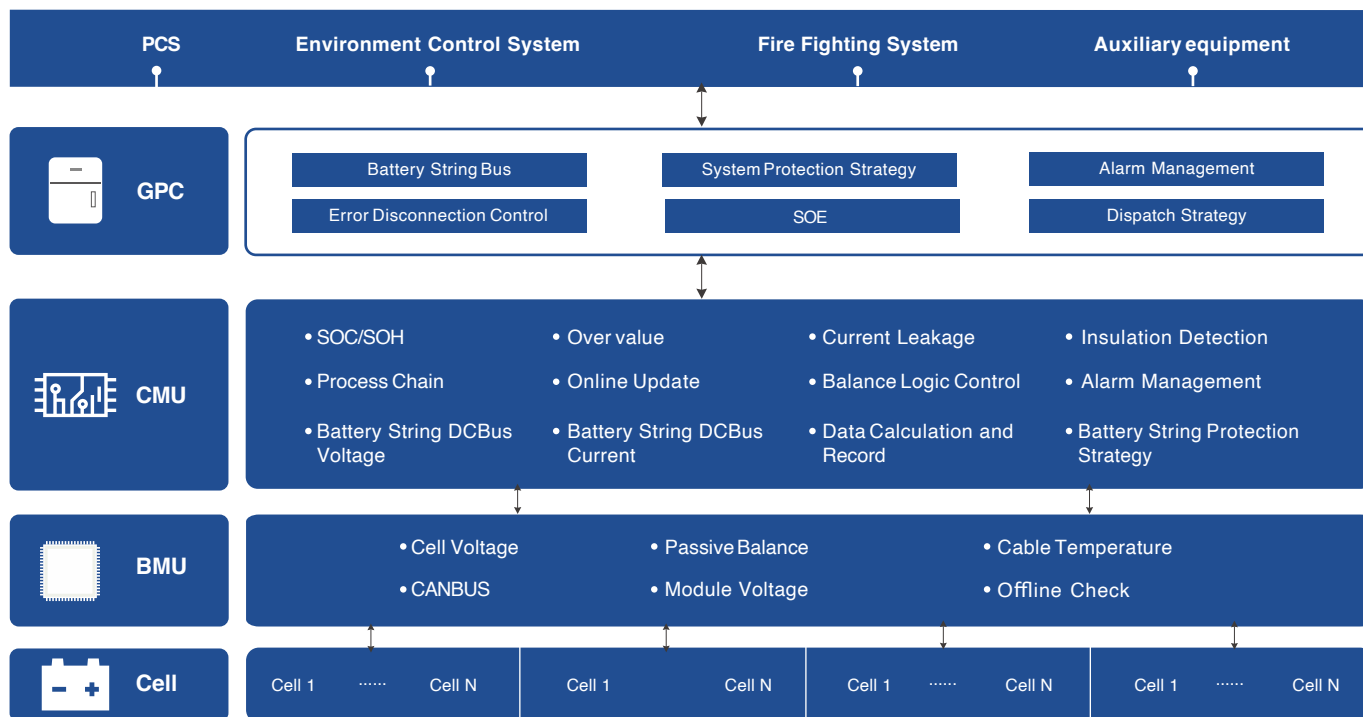
## Power Conversion System (PCS)

Item	Data
Battery voltage range	630~900V
DC max current	873A
Rated AC power	500kW
Maximum AC power	550kW
Rated voltage	400V
Grid voltage range	360~440V
AC rate of current	721.7A
Output THDi	≤3%
Adjustable PF	1(leading)~1(lagging)
Grid frequency range	50/60±2.5Hz
Isolation method	Non-isolation
Dimensions (W*D*H)	1,100*800*2,160mm
Weight	600kg

## GridPoint Controller (GPC)

Item	Data
Power interface	AC400V/DC24V
Communication	Modbus RTU, Modbus TCP
Relay	24 stem node input/output

# BMS with Real-time Passive Balance



BMU		CMU	
Cell Voltage Measurement Accuracy	±2.5mV	Battery String Voltage Measurement Range	100~1,500V
Cell Voltage Monitoring Interval	≤500ms	Battery String Voltage Measurement Accuracy	±1%
Cell Temperature Measurement Accuracy	±2℃	Battery String Voltage Monitoring Interval	≤200ms
Cell Temperature Measurement Interval	≤3s	Battery String Current Measurement Range	±300A
Cell Current Balance	Active Balance, 5A MAX	Battery String Current Measurement Accuracy	≤1%
Cell Voltage Measurement Range	1~5V	Battery String Current Monitoring Interval	≤50ms
Over-current Protection	250A/1s	SOC Calculation Accuracy	≤8%
Short-Circuit Protection	500A/10ms	Input Insulation Resistance	≥10MΩ, 1,000VDC

## NOTES

All products are for delivery in Europe. The information in this document may be incomplete, out of date and may contain typographical errors. Capture Energy reserves the right to make changes in specifications and other information without prior notice, and the reader should in all cases consult Capture Energy to determine whether any such changes have been made.

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### Delivery service models

- 1. TURN KEY SOLUTION** – all included, we are in charge from the start to plan use of the storage system and with application to grid company, included everything to installed, optimized up and running service at your place.
- 2. INSTALL AT LOCATION** – we deliver specification for how to be prepared for installation, you prepare all, we will have a common quality check on site together, then we take the responsibility for installation and optimizing at your site.
- 3. DELIVERED TO TRANSPORT** – your business are trained and take own responsibility for installation and optimizing.  
(Only available for selected partners.)



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