Flex BESS T2-1720

Strong Assurance System

- Strong R&D team supports creative products and experience engineers support the high quality manufacturing; High-standard testing process ensure quality delivery.

Easy Operation

- Fully integrated and plug-and-play ;
- 3L+N PCS without transformer and directly connect to grid
- Accessible to different sources of powers: PV, Grid or DG, supports both on-grid and off-grid modes;

Modular design for multiple Application

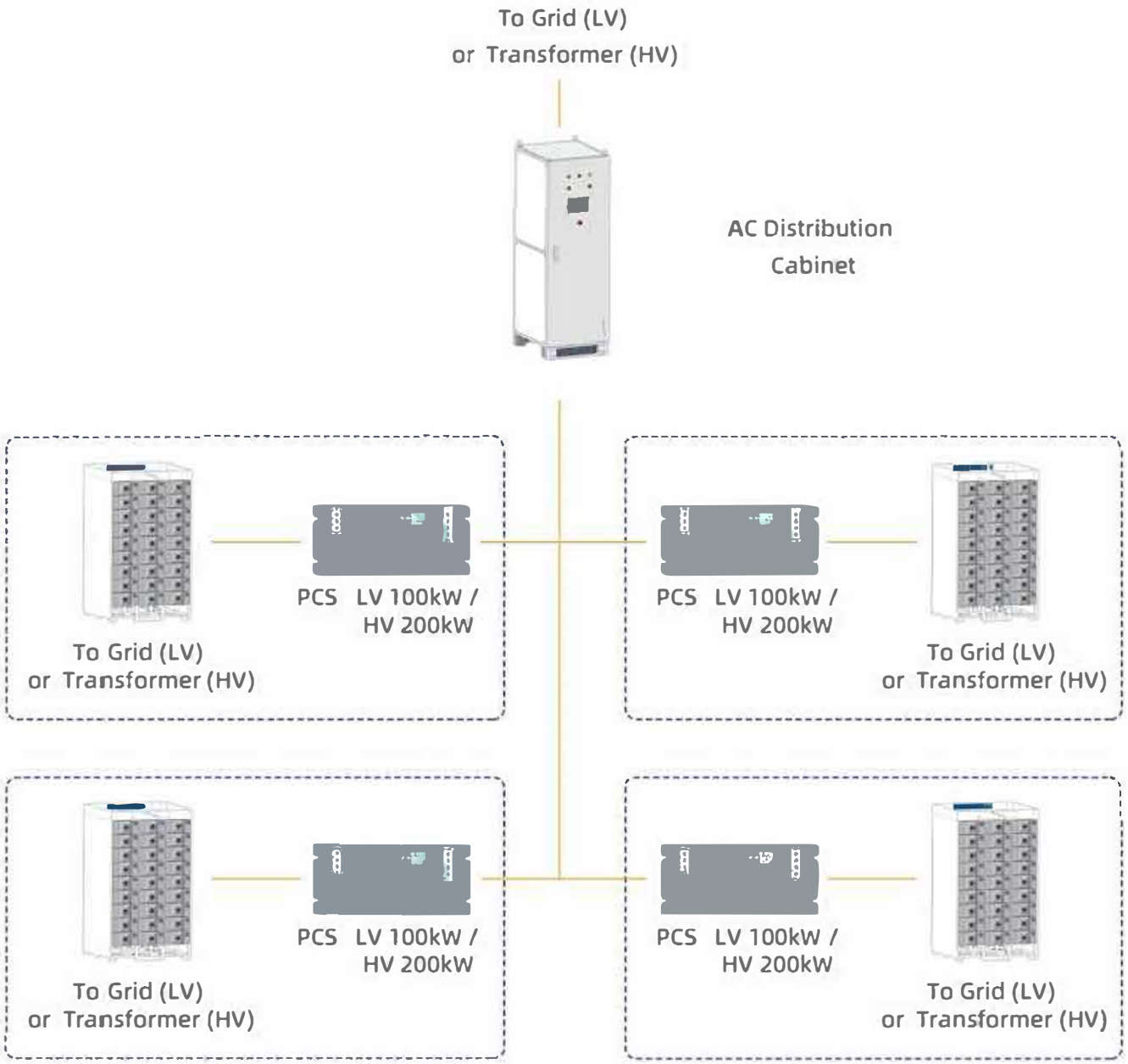
- One cluster 215kwh battery as a module, from 215kwh to 1720kwh in one container ;
- One battery cluster to one PCS; Cluster difference compatibility , and improve the usability;
- Modularization to save maintenance cost

Reliable & Competitive Quality

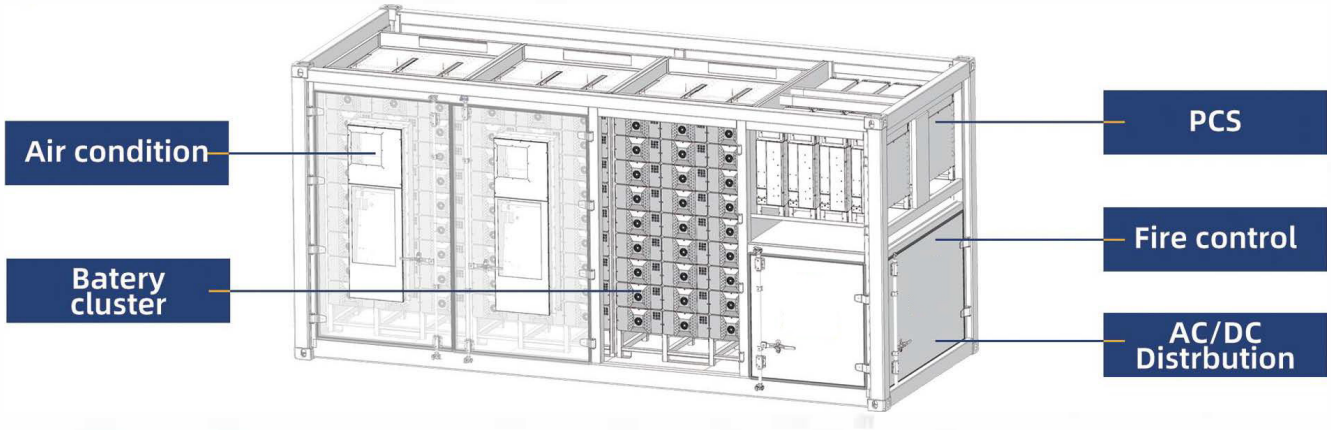
- EN62619 and UL9540 compliant up to battery cluster level ;
- Containerized with protection level at IP54 for the whole system and IP65 for the battery compartment;

System Topology

Grid AC 400V 3L, N,PE (LV)/ Transformer 3L,PE (HV)



System Configuration



Product features

- Low voltage and high voltage solution

  The FlexBESS T2-1720 series has two configurations: high voltage and low voltage.

  FlexBESS T2-1720: Low voltage configuration uses low voltage PCS(400V) and low voltage battery cluster 215kwh.

  FlexBESS T2H-2236:High voltage configuration uses high voltage PCS (690Vac) and high voltage battery cluster 372.7kwh. PCS connect to grid through the transformer.

- Cluster operation independently

  One cluster only connect to one PCS, each cluster operation independently. The differences between battery clusters do not affect each other, effectively improving the usability of the battery at the end of its life cycle.

  When the PV connect to the system, there are 2 solution for option: the PV connects to each cluster through MPPT conversion, or connects to the internal DC busbar which all the battery cluster parallel to.

FlexBESS T2L-1720 configuration

Product					
Battery Cluster	4	5	6	7	8
PCS power (kw)	400	500	600	700	800
Energy capacity	860	1075	1290	1505	1720

FlexBESS T2H-2236 configuration

Product					
Battery Cluster	2	3	4	5	6
PCS power (kw)	400	600	800	1000	1200
Energy capacity	745	1118	1490	1864	2236

Key Components

Easy Operation

- Use BMC(Bulk Molding Compound) instead of Metal to make
- the pack;
- 0.5C Charge/Discharge; The Each cluster connect one PCS , charge and dis-
- charge independently Easy configuration and maintenance;

Item	Parameter
Pack Quantity	15 (low voltage) / 26 (high voltage)
Nominal capacity	215kWh / 372.7kwh
Discharge cutoff- rated-charge cutoff voltage	672V~768V~852V / 1206V~ 1331V~ 1464V
Cell	3.2V/280Ah
Cluster measuring voltage range	100~1,000V / 100~1,500V
Cluster voltage detection accuracy	±1%
Cluster voltage sampling period	100ms
Cluster measuring current range	±300A
Cluster current detection accuracy	≤1%
SOC calculation accuracy	≤7%
Input insulation resistance	≥10MQ, 1,000V DC
Communication	Modubus TCP,CAN,Modubus RTU
System cycle life	≥6,000 cycles@0.5C,25℃
Dimensions (W*D*H)	1000mm*750mm*2460mm / 1480mm*750*2460mm
Weight	1,575kg / 2,730kg
Certification	IEC62619,CE, UN38.3

Power Conversion Module (LV)

- Three phase independent control when Connection with grid ;
- Modular feature support up to 10pcs paralleling ;
- support Support parallel with diesel generator.

Item	Parameter
Battery voltage range	600~900V
DC max current	165A
Rated AC power	100kW
Maximum AC current	160A
Rated voltage	400V
Grid voltage range	±15%
AC rate of current	150A
Output THDi	≤3%
Adjustable PF	1 (leading)~ -1(lagging)
Grid frequency range 50/60±2.5Hz	59.5 ~ 60.5Hz
Output	3 Phase with neutral
Dimensions (W*D*H)	700*220*440mm
Weight	60kg

Key Components

Power Conversion Module （HV）

- Three-level topology, up to 99% conversion efficiency;
- Modular feature support up to 10pcs paralleling ;
- Support constant power, constant current, constant voltage control
- ms Level Responsiveness
- IP66 Protection

Item	Parameter
Battery voltage range	1000~1500V
DC max current	224A
Rated AC power	200kW
Maximum AC current	184A
Rated voltage	690V
Grid voltage range	3W+PE -15%~+10%
Max efficiency	99%
Output THDi	≤ 1.5%
Adjustable PF	1 (leading)~ -1(lagging)
Rate Grid Frequency	50/60Hz
Degree of protection	IP66
Dimensions (W*D*H)	810×845×275mm
Weight	98kg

EMS

Cloud base EMS

- The EMS runs automatically without manual operation. Connect to cloud monitor system to share the data for maintenance at the same time .

System Technical Specifications

Item	T2-860,1720				
DC Side parameters					
Battery chemistry	Lithium Iron Phosphate (LFP)				
Cell life cycle	80% Retention with 6,000 Cycles @0.5C 25°C				
Cell Spec.	3.2V/280Ah				
cluster configuration	1P240S / 1P416S				
Number of cluster	4 / 2	5 / 3	6 / 4	7 / 5	8 / 6
Cluster rated capacity	215 kWh (low voltage cluster) / 372.7kwh(high voltage cluster)				
DC rated energy capacity	860/745kwh	1075/1118kwh	1290/1490kWh	1505/1864kwh	1720/2236kwh
Rated voltage	768V / 1331V				
Voltage range	672V~852V / 1206V~1464V				
BMS communication interface	RS485, Ethernet				
BMS communication protocol	Modbus RTU, Modbus TCP				
AC Side Parameters					
Rated AC power	800kW				
Maximum AC power	1000kW				
Rated voltage	400V (690V is option for High voltage DC cluster)				
Grid voltage range	±15%/±10%				
AC rate of current	1200A / 884A				
Output THDi	≤3%				
Adjustable PF	+1~ -1				
Grid frequency range	50/60±2.5Hz/59.5~60.5Hz				
Output	3 Phase +neutral (for 400Vac, 3phase 4line for 690Vac)				
General Parameters					
Dimension w/o clearances (L*W*H)	6,058*2,438*2,591mm				
Weight of the whole system	<15t / 14t	<16t / 17t	<18 t / 19 t	<19.3 t/-22 t	<21 t/26 t
Degree of protection	IP54				
Operating temperature range	-20~40℃				
Relative humidity	0~95%(non-condensing)				
Max working altitude	3,000m/9,842ft				
Cooling concept of DC hatch	HVAC				
Communication interfaces	RS485, Ethernet, GPRS				
Certifications	UL1973, UL9540, IEC62619,CE,UN38.3				