Flex BESS T2-1000FR

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;

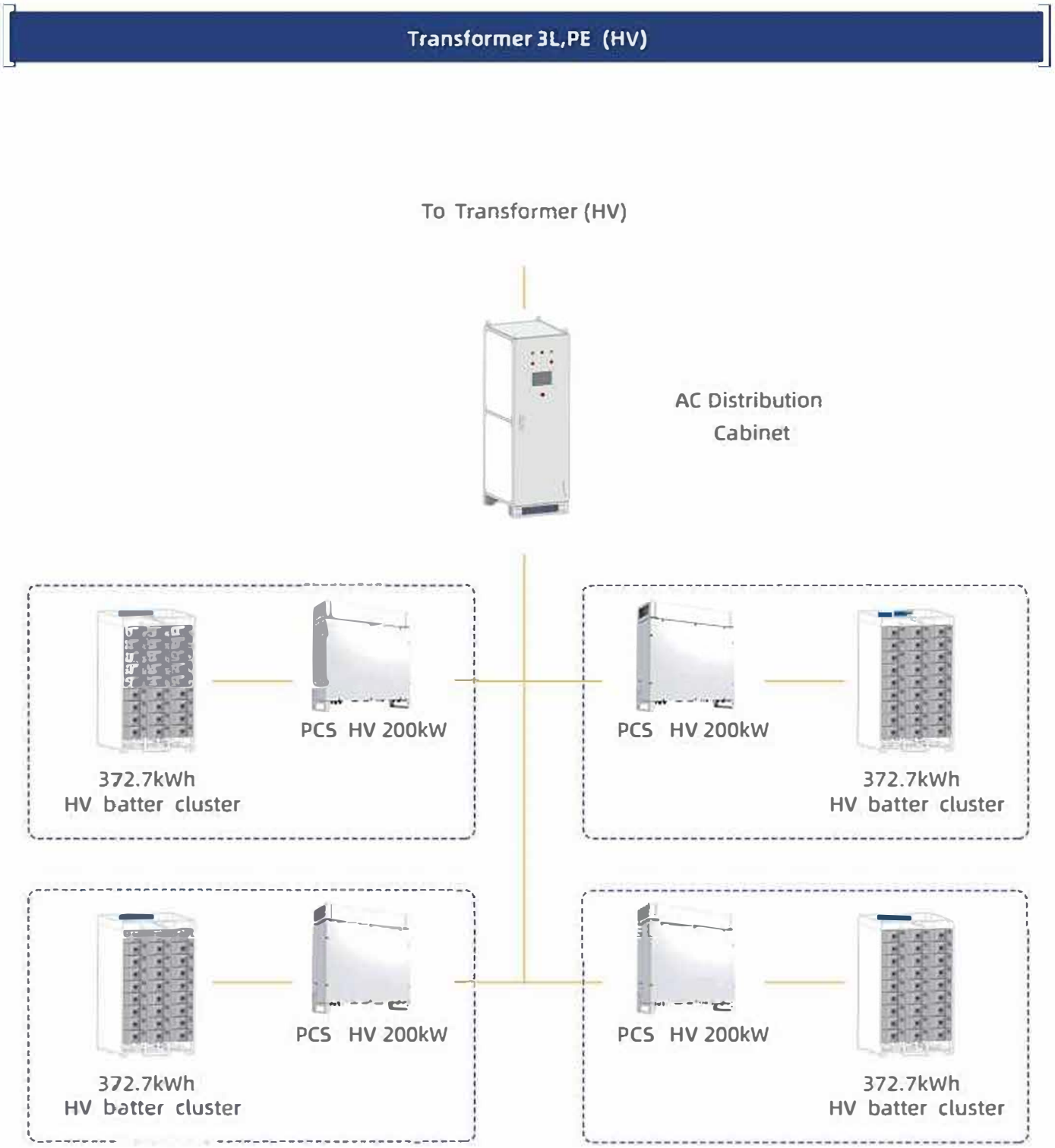
Modular design for multiple Application

- One cluster 156.7kwh battery as a module, from 627kwh to 12540kwh in one container for HV ;
- One battery cluster to one PCS; Cluster difference compatibility , and improve the usability;
- Modularization to save maintenance cost

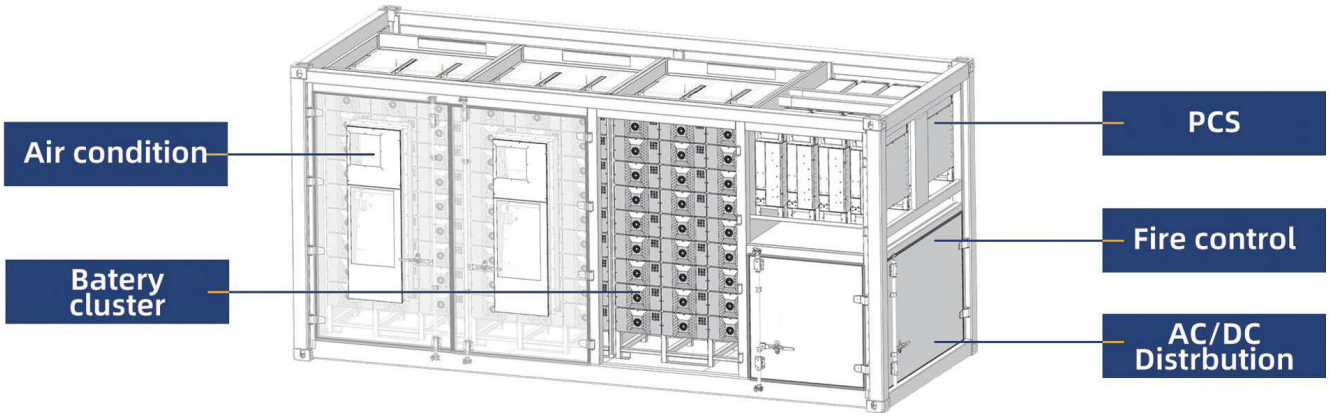
Reliable & Competitive Quality

- EN62619 and UL9540A compliant up to battery cluster level ;
- Containerized with protection level at IP54 for the whole system and IP65 for the battery compartment;

System Topology



System Configuration



Product features

- Low voltage and high voltage solution
  The **Flex**BESS T2-1106FR series has two configurations: high voltage and low voltage.
  FlexBESS T2L-1106FR:Low voltage configuration uses low voltage PCS(400V) and low voltage battery cluster 92.2kwh.
  FlexBESS T2H-1254FR:High voltage configuration uses high voltage PCS (690Vac) and high voltage battery cluster 156.7kwh. PCS connect to grid through the step-up transformer.

- For the ***Flex***BESS T2L-1106FR,6 clusters connect to one PCS, the clusters use BMS to mange the paralleled clusters.
  For the ***Flex***BESS T2H-1254FR,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.

FlexBESS T2H-1254FR configuration

Product					
Battery Cluster	4	6	8	10	12
PCS power (kw)	369	500	737	922	1000
Energy capacity	369	553	737	922	1106

FlexBESS T2H-1253FR configuration

Product					
Battery Cluster	4	5	6	7	8
PCS power (kw)	627	784	940	1097	1254
Energy capacity	627	784	940	1097	1254

Key Components

Battery Cluster

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

Item	Parameter
Pack Quantity	10(low voltage) / 17 (high voltage)
Nominal capacity	92.2kWh / 156.7kwh
Discharge cutoff- rated-charge cutoff voltage	672V~768V~852V / 1180V~ 1305V~ 1438V
Cell	3.2V/120Ah
Cluster measuring voltage range	100~1,000V / 100~1,500V
Cluster voltage detection accuracy	±1%
Cluster voltage sampling period	100ms
Cluster measuring current range	±120A
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)	546*1442.4*2432 / 1092*1442.4*2432 (mm)
Weight	1,000 / 1,640kg
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

* Other PCS is option.

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	T2-1000FR Series				
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/120Ah				
cluster configuration	1P240S / 1P408S				
Number of cluster	4 / 4	6 / 5	8 / 6	10 / 7	12 / 8
Cluster rated capacity	92.2 kWh (low voltage cluster) / 1.567kwh(high voltage cluster)				
DC rated energy capacity	369 / 627kwh	553 / 784kwh	737/ 940 kWh	922/1097kwh	1106 /1254kwh
Rated voltage	768V / 1305V				
Voltage range	672V~852V / 1180V~1438V				
BMS communication interface	RS485, Ethernet				
BMS communication protocol	Modbus RTU, Modbus TCP				
AC Side Parameters					
Rated AC power	1250kW				
Maximum AC power	1375kW				
Rated voltage	400V (690V is option for High voltage DC cluster)				
Grid voltage range	±15%/±10%				
AC rate of current	2000A / 1120A				
Output THDi	≤3%				
Adjustable PF	+1~ -1				
Grid frequency range	50/60±2.5Hz				
Output	3 Phase +neutral+PE / 3phase +PE				
General Parameters					
Dimension w/o clearances (L*W*H)	6,058*2,438*2,591mm				
Weight of the whole system	<12.3t / 15t	<14.5 t / 16.7t	<16.7 t / 18.4 t	<18.8 t/ 20.2 t	<21 t/21.9 t
Degree of protection	IP54				
Operating temperature range	-20~40°C				
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	IEC62619,CE,UN38.3				