

Container Energy Storage System

All-in-one ESS

SmartBase 500K-1000KWH



Key Feature

- High cycle life LFP cells
- On/Off grid switching, time ≤20ms
- Smart air cooling design
- Multi-level protection and fault isolation.
- Local & remote intelligent monitoring, real-time data storage.
- 3-level (Pack + Cluster + System) fire protection system,
- Pre-installed design for convenient transportation and installation, cost-saving.

Certification

- NRS 097-21-1
- UN38.3
- IEC 62619
- IEC 62477
- IEC 63056
- IEC 61000-2/4
- CSC

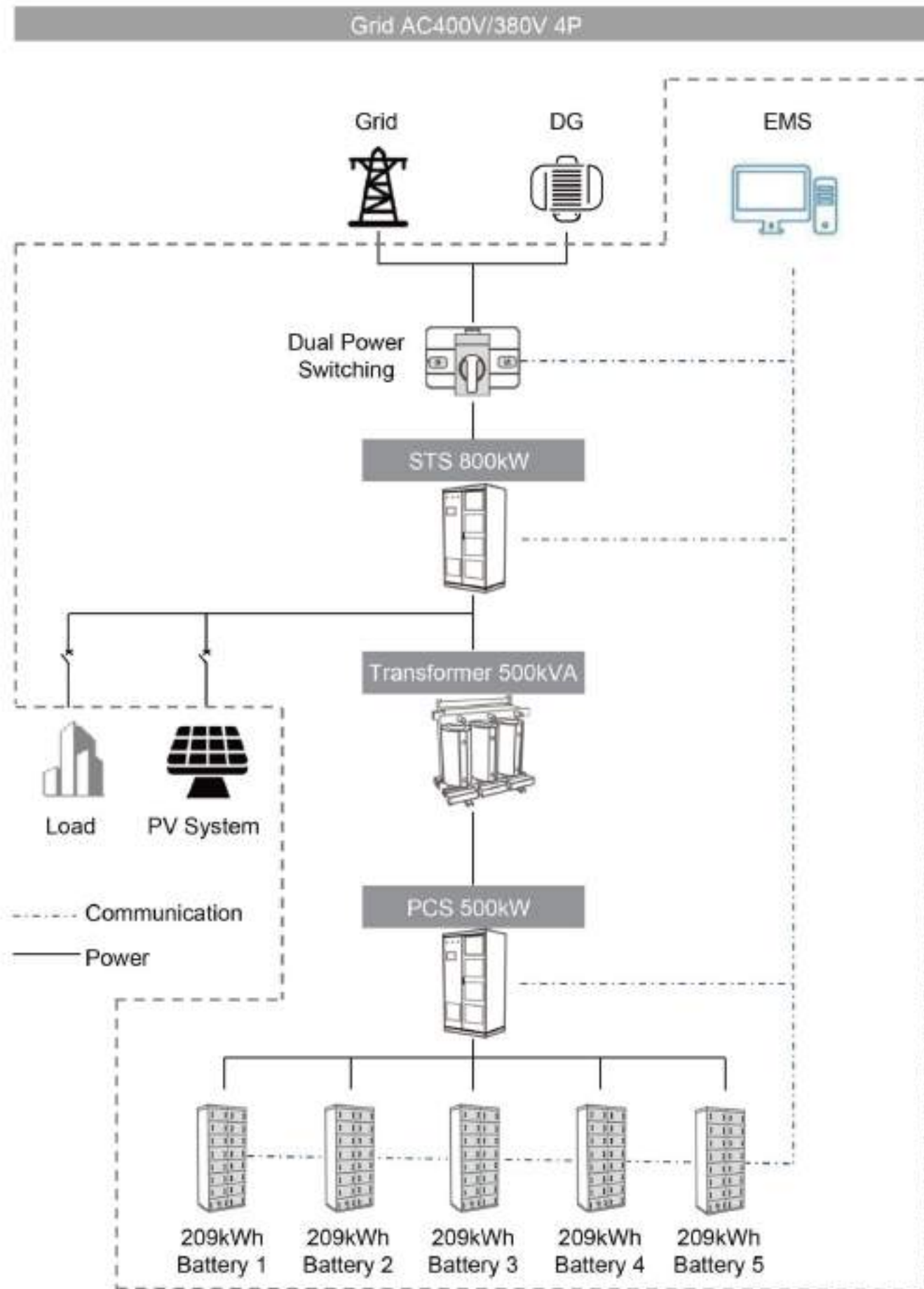
Application

- Emergency Back-up
- Peak Shaving
- PV Self-consumption
- Frequency Regulation
- Peak Regulation

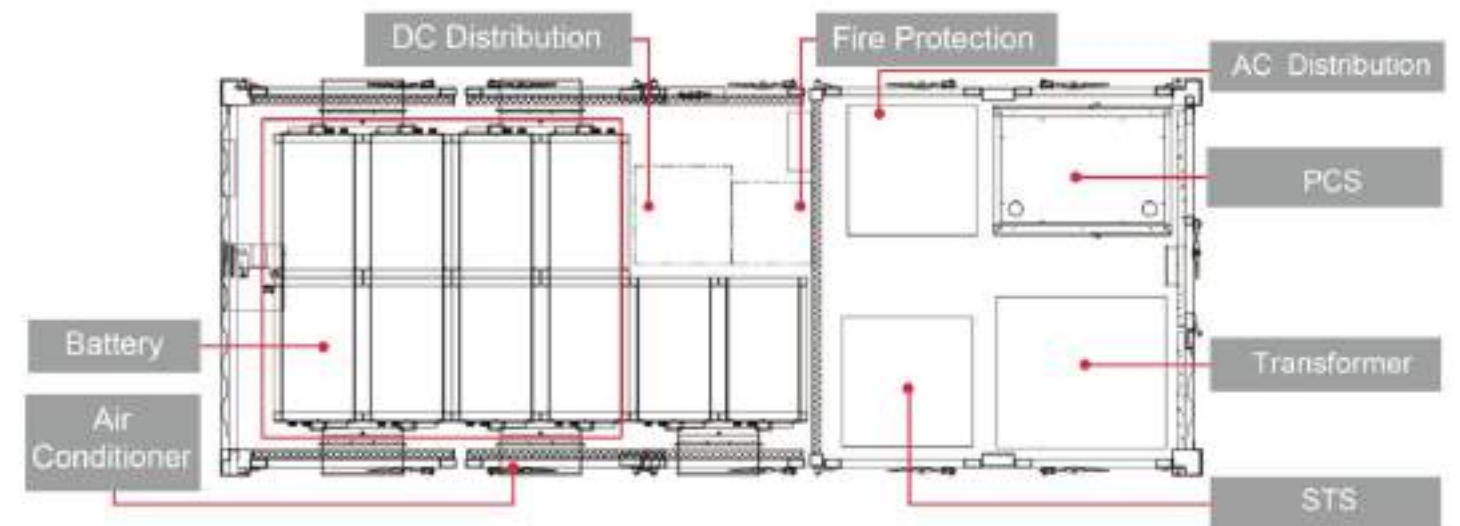
Specification / 20FT Container

Item	SmartBase 500K-1000KWH
DC Parameters	
Battery Type	LFP
Battery Voltage Range	655.2 ~ 819V
Battery Charge/Discharge Power Rate	0.5P/0.5P
Battery Rated Energy	1048kWh
AC Parameters	
Nominal Power	500kW
Nominal Voltage	AC400V
Nominal Frequency	50/60Hz
Nominal Current	780A
Output THDi	<3%
Overload Capacity	110%@10mins, 120%@1min
Isolation Mode	Transformer, 500kVA
PV Parameters (Optional)	
Nominal Power (Single Unit)	100kW (Supports up to 5 units)
MPPT Input Voltage Range	200-1000V
Nominal Output Voltage	AC400V
Max. Efficiency	98.8%
System Parameters	
On/Off-grid Switching Time	<20ms
Cooling	Air conditioner
Noise	<75dB (at 1m)
IP	IP54
Altitude	3000m (>2000m derating)
Temperature Range	0°C to 50°C, (>45°C derating)
Humidity Range	0~95%RH
Communication	RS485, CAN, Ethernet
Fire-protection	Perfluorohexanone
Dimensions (L*W*H)	6058*2438*2896mm
Total Weight	Approx. 20t

· System Composition



· System Configuration



Model	Battery Ennergy	Container	STS	PCS	Transformer
NKS 500K-1000KWh-1F	209 KWh	-	800kW	500kW	500kVA
	5	20ft	1	1	1

• 20ft System Specification

- High cycle life LFP cells
- Smart air cooling design
- 3-level(Pack+Cluster+System)BMS and fire-protection system

Battery Cluster	Item	NKB 691-209KWh
	Battery Module Qty	13
	Battery Module Specification	57.6V/280Ah@1P18S
	Nominal Capacity	280Ah
	Nominal Energy	209 kWh
	Rated Voltage	748.8V
	Voltage Range	655.2~819V
	Rated Charge/Discharge Power	0.5P/0.5P
	Cycle Life	≥6000
	Working Temperature Range	0℃~55℃
	Cooling	Air Cooling
	Weight	Approx. 1600kg
	Depth of Charge/Discharge (DOD)	100%

- Local & remote intelligent monitoring
- Real-time data storage

Power Conversion System	Item	PWS1-500KTL
 - Interleaved three-level topology, bidirectional energy conversion - Modular design, easy to install - Wide temperature operating capability, providing greater adaptability. - Equipped with functionalities such as PQ, VF, SVG, VSG, etc.	AC Parameters	
	Nominal AC Power	500kW
	AC Overload Capability	550kVA
	Wiring Method	3P3L
	Allowed Grid Voltage	380/400V
	Operating Grid Frequency	50/60Hz
	THDi	≤3%
	Power Factor	-1 ~ 1
	AC Voltage Range	380/400V
	System Parameters	
	Max. Conversion Efficiency	98%
	Isolation Transformer	Standard configuration, 200kVA
	Noise	<75 dB (1m away from the device)
	Cooling	Air Cooling
	IP	IP20

On/Off grid seamless switching <20ms

STS	Item	PWD-800kW
	Grid Side/Load Side Parameters	
	Nominal Power	800kW
	Nominal Voltage	AC400V
	Nominal Current	1155A
	Nominal Frequency	50/60Hz
	System Parameters	System Parameters
	On/Off-grid Switch Time	≤20ms
	Cooling	Air cooling
	Working Temperature	-20 ~ 45℃
	Communication	RS485/CAN/Ethernet
	Max. Efficiency	99.5%
	Weight	300kg

Multi-level protection and fault isolation

Isolation Transformer	Item	
 - Both the high and low voltage coils are made of copper, improving efficiency. - High insulation level and strong high-temperature resistance. - Effectively filter out harmonics, enhancing power quality.	Rated Capacity	500kVA
	Primary Rated Input Voltage	400V
	Secondary Rated Input Voltage	400V
	Noise	≤55dB (At 1m)
	Core Material	30Q120 oriented silicon steel sheet
	Overload Capacity	1.1x long-term operation
	Insulation Level	Class H
	AWTRL	125K (Rated Power)
	Installation	Inside the cabinet
	Working Efficiency	≥98.5%
	Others	Normally closed passive temperature switch
	Insulation Resistance	≥100MΩ/DC1000V
	Withstand Voltage	AC3000V (Power frequency AC 1min)