

ICS500K1KR 500kW /860kWh

Industry, Commercial and EV charging Station Battery Energy Storage Solution

The ICS500K battery energy storage system is specially designed for the commercial and industrial energy storage and EV charging energy storage applications. It offers max 500kW power capacity and supports max 4 sets of 215kWh IBS215K1KC battery cube access to achieve max 860kWh battery energy capacity. Max 4 sets can work in parallel to reach 2MW/3.44MWh capacity.

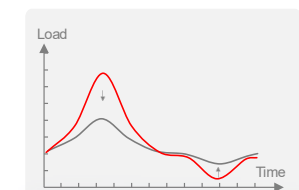
It features building block design with power inverter, power distribution, PV access and battery access for easy maintenance and flexible configuration. Independent battery group access with separate battery bus isolation in power conversion enhances battery safety and the working life. Optional independent AC side cube supports STS function and power increase.

The bidirectional ACDC power module, PV MPPT DCDC converter, EMS controller, battery access interface and AC Grid access interface are all integrated in one power cube to improve the space efficiency and cost efficiency. It also offers easy alternative energy access and flexible configuration.

ICS500K BESS can be used in peak shaving for demand charge management, load shifting for time-of-use savings, real and reactive power compensation for improved power quality, and standalone operation in off-grid mode for power backup.

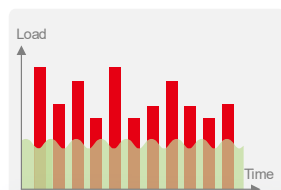
It has gained global grid code certification and TUV CE certification.

Application and Values



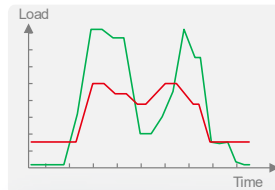
Peak Load Shifting

Charge during off-peak hours and discharge during peak hours, achieving peak-valley arbitrage or reducing electricity costs



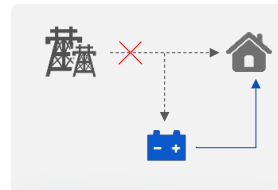
Dynamic Power Expansion

For intermittent high-power loads, the energy storage system can balance load output and achieve dynamic expansion



Cost saving

Participate in load side response and obtain government subsidies. Reduce peak power and save basic electricity bills. Real and reactive power compensation to improve power quality

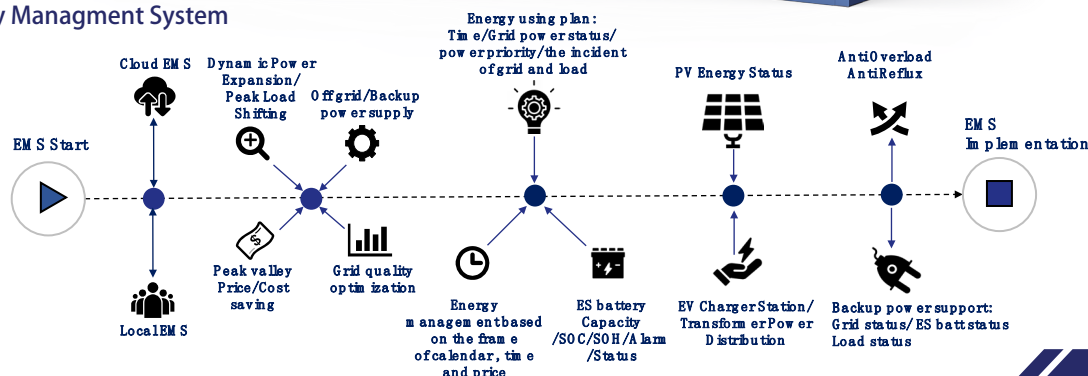


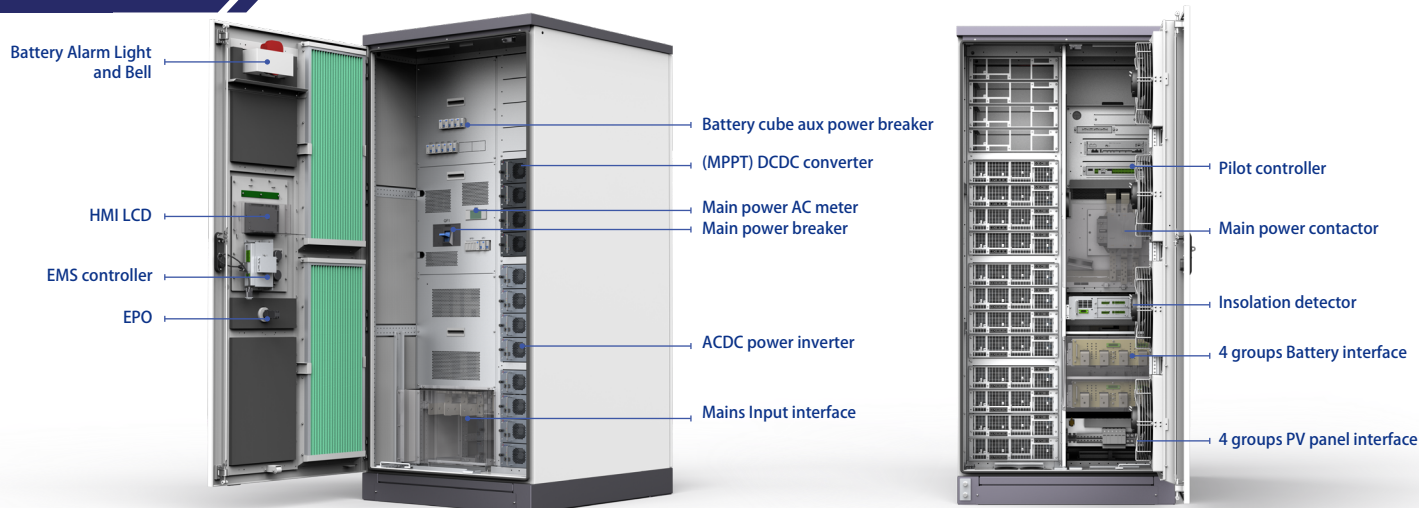
Off Grid -- Power Backup

When the grid is interrupted abnormally, the energy storage system provides uninterrupted power supply for important loads to avoid economic losses



Local Energy Management System





ICS500K1KR 500kW Power Cube

AC grid access	AC voltage	260Vac-437Vac, 45-65Hz/ 3-phases+N+PE
	AC max power	500kVA (8 * 62.5kVA)
Energy Storage	Battery group access channel	Max 4 channels
	Battery dis/ charging current ratio	0.5C charge and discharge, 0.75C discharge with 30 min
Battery access	Battery dis/ charging power to/ from AC Grid	Max 4 * (2 * 62.5kW)=500kW
	STS Configuration	500kW
Backup AC support (option)	STS power switch time	20mS
	STS efficiency	99.5%
	Function	ON/OFF grid control(automatic and manual), Seperate 3 phase and N line power switch
	Protection	Protection against countercurrent
	Backup Power	Max 500kW
	Bypass function / Off grid function	Yes (option)
PV access (option)	Access Channel	Max 4 channels
	Access Power	Max 4 * 30kWp =120kWp, MPPT support
Metering	Electric Isolation	No isolation between the Grid and Batt, Isolation between the PV and Battery
	AC Grid main side	1 bi-directional AC energy meter
	Backup load side	1 bi-directional AC energy meter
	Station transformer entry side (option)	1 bi-directional AC energy meter
EMS	Local EMS	IMMU2 EMS controller, inner EMS algorithm and big data
	Remote EMS platform	Based on the Ethernet/TCP IP, Websocket+Json, MQTT+Json, Modbus, IEC104, IEC61850
	Remote HW interface	4G/Wifi/WLAN and LAN
Insulation detect		Each Battery channel and Each PV channel, +/PE and -/PE detector
HMI		7 " TFT Touch Screen, 5 status LED, E-STOP, Battery Fire Alarm Light/Beeper Default English, Multi Language support.
Dimension	W * H * D mm = 1000 * 2200 * 1150 mm, Weight: 800 kg (Full power modules)	
Protection level	IP54	
EMC/EMI	CE IEC61000-6-1/-6-3	
Safety Certification	EN62477-1, UL1741	
Grid connection	VDE-AR-N 4105, IEEE1547, UL1741SA/SB, GBT34120	
Parallel Ability	Max 4 sets in parallel work to get 2MW power and 3.44MWh capacity	

IBS215K1KC 215kWh Battery Cube

See Battery Cube Datasheet

IAC1000KC 1MW AC/STS Cube

IAC0500KC	500kW AC/STS Cube	See AC Side Cube Datasheet
IAC1000KC	1MW AC/STS Cube	See AC Side Cube Datasheet

System Configuration

ICS500K1KR	1 Power cube/500kW	4 Battery cube/860kWh
ICS375K1KR	1 Power cube/375kW	3 Battery cube/645kWh
ICS250K1KR	1 Power cube/250kW	2 Battery cube/430kWh
ICS125K1KR	1 Power cube/125kW	1 Battery cube/215kWh

Power Module Configuration

CEG1K0100G	30kW MPPT DCDC	Isolation type
BEG1K0110G	62.5kW Power Inverter	Non Isolation type

