



iCS

intelligent charging systems

Home Battery Storage Preliminary Information Brochure

Welcome to the Home Battery Storage brochure from iCS



Store energy generated from on-site solar or from the grid at times when electricity is at its lowest cost.



Power dedicated appliances such as Electric Vehicle chargers or provide 24/7 power backup for your home.



Control how and when your off-peak or renewables generated energy is used.

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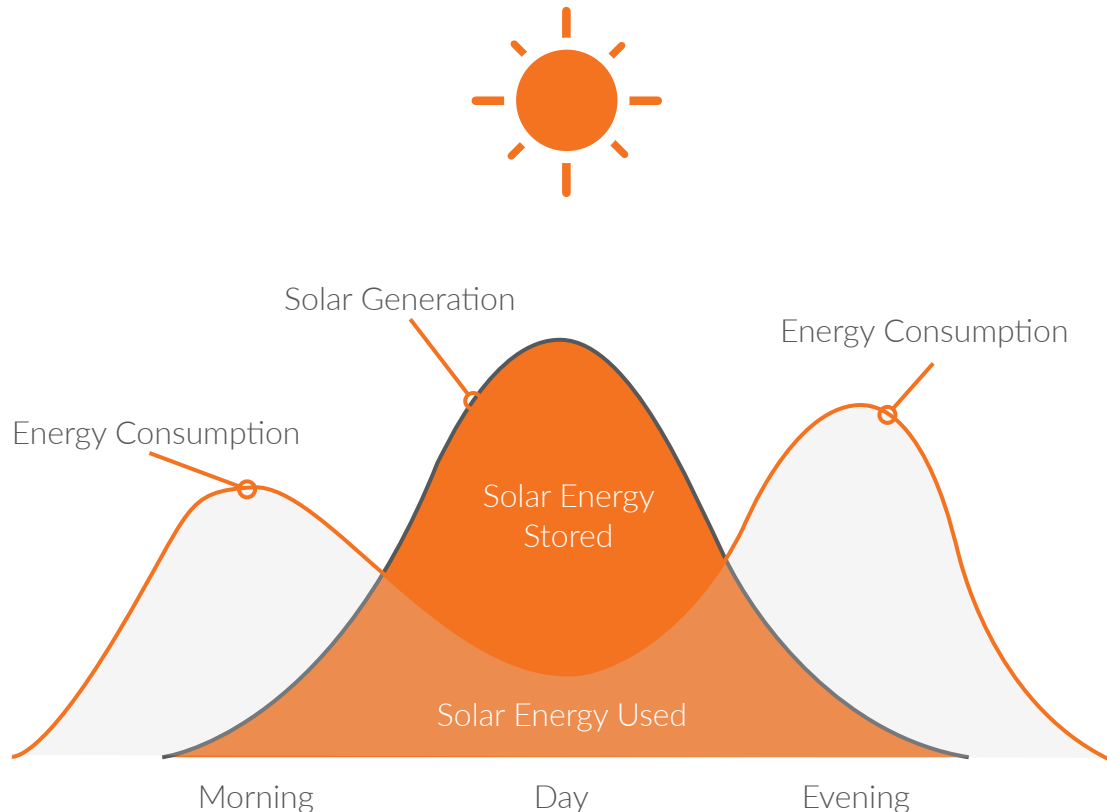
Reduce electricity bills

iCS Home Battery Storage system stores surplus energy from on-site solar and the electricity grid during off-peak periods for when it is needed most, reducing the reliance on expensive, peak time electricity from the grid, resulting in reduced electricity bills.

Maximise solar generated power usage

Most households energy usage peaks in the morning & evening, whilst energy generated from solar PV systems typically peak at the time of the lowest electricity consumption in a home. This can result in home owners wasting electricity that has been generated, even if exported back to the grid, as it is usually sold back to the grid at a price vastly less than the consumers' electricity tariff.

The iCS Home Battery Storage system allows the full potential of the solar PV installation to be realised, whether for use on dedicated circuits, for specific appliances, or to be used as 24/7 emergency back up in areas with an unstable electrical supply.



Product appearance and performance

The iCS Home Battery Storage system is designed with the home owner in mind. The high build quality allows the battery module to be installed in many applications, inside or out. The clever design enables modules to be stacked, with no connecting cables being visible. Up to eight battery modules can be used on the system providing up to 40.96 kWh of capacity as safely as possible due to the stringent on board safety features including automatic fire suppressant.

Particular attention has been given to the hybrid inverter, which is an element often overlooked. As larger loads such as electric vehicle chargers may be connected, the iCS inverter has a continuously rated output of 5000VA or 21.7Amps. When connected to one battery module this can be typically fully charged in just one hour from the grid.

ICSESS1KIT Comprises of 1x Battery Module, 1x Hybrid Inverter, 1x DIN Mount Gateway.



Battery Module(s): ICSESS1
H: 500mm x W:660mm, Weight 45kg



Hybrid Inverter: ICSESSH
H: 520mm x W:550mm



DIN Mount Gateway



System Layout

The iCS Home Battery Storage system comprises of the Battery Module(s), a Hybrid Inverter and DIN Mount Gateway for connection to the iCS2.0lite APP.

This layout allows for the system to be installed along with a new Solar PV install whilst also connecting to the grid. During the configuration of the inverter, various operation modes are available depending on the site requirements including anti-islanding protection, which stops the system from exporting energy back to the grid in the event of a grid power outage.



ICSESS1 Battery Module Specifications

Battery Capacity	5.12 kWh
Useable Battery Capacity	4.60 kWh
Depth of Discharge	90%
Rated Voltage	51.20V
Operating Voltage Range	48V 57V (90% DoD)
Internal Resistance	≤ 30 mΩ
Cycle Life	10,000 Cycles lifespan
Ingress Protection	IP65
Operating mode	
Maximum charging	50A (0.5C)
Maximum discharging	100A (1C)
Maximum short circuit	200A
Working temperature	-10°C -50°C
Humidity	≤ 90% ROH, No Condensation
Battery management	
Maximum number of modules	1-8 Parallel
Capacity	5.12–40.96 kWh
Useable Capacity	4.61–36.86 kWh
Energy Consumption	<2W (<50mW in sleep mode)
Monitoring Parameters	System voltage, Cell voltage & temperature, Current, PCBA temperature
Fire safety	Automatic aerosol fire suppressant
Communication interface	Compatible with CAN & RS-485
Physical	
Dimensions (HxWxD)	500mm x 660mm
Certifications	
Battery	IEC62619, IEC62133, UN38.3, UL1642, CE, UKCA

ICSESSH Hybrid Inverter Specifications

DC input	
Maximum recommended DC power	7000W
Maximum DC Voltage	550V
Nominal DC operating voltage	360V
MPPT voltage range	125-500V
Maximum input current	14A
AC output	
Nominal AC power	5000VA
Rated grid voltage	230V (176-270V)
Rated grid frequency	50/60Hz
Nominal AC current	21.7A
Total harmonic distortion	<2%
AC input	
Nominal AC power	5000VA
Rated grid voltage	230V (176-270V)
Rated grid frequency	50/60Hz
Nominal AC current	21.7A
AC inrush current	35A
Emergency Power Supply output	
EPS rated power	5000VA
Maximum EPS power	5000VA
EPS rated voltage, frequency	230V (176-270V), 50/60Hz
EPS rated current	21.7A
Switch time	<500ms
Physical	
Ingress Protection	IP65
Dimensions (HxWxD)	520mm x 550mm x 200mm
Certifications	
Inverter	CE, UKCA, G99



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