



Our team is here to support you or your organisation with leading energy solutions. At Chelion, we work with residential, commercial, industrial & utility clients and offer a comprehensive suite of services to assist you in making the switch to sustainable energy.



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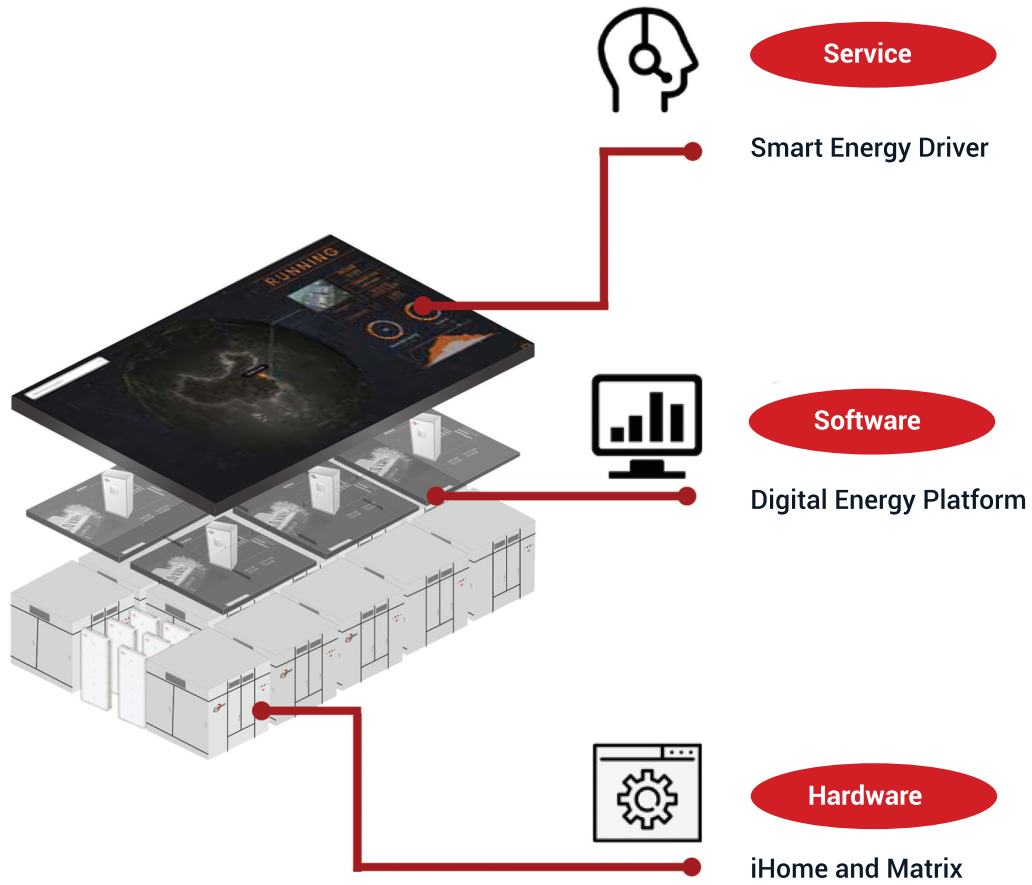


## Residential Energy **Storage System** Solutions


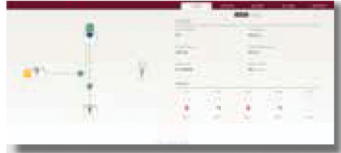




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# About US



We provide access to Global Leading Storage Solutions by integrating energy management technology with domestic & international market resources.

iHome and Matrix	Construction Maintenance	Operation Trading
<b>Financing Services</b> <ul style="list-style-type: none"> <li>✓ Project Development</li> <li>✓ Investment planning</li> <li>✓ Operational Planning</li> <li>✓ Technical Policy</li> </ul>	<b>Maintenance Services</b> <ul style="list-style-type: none"> <li>✓ EPC</li> <li>✓ Asset Management</li> <li>✓ Exception Reporting</li> <li>✓ Maintenance Services</li> <li>✓ AI Control</li> </ul>	<b>Operation Services</b> <ul style="list-style-type: none"> <li>✓ Asset-backed Securitization</li> <li>✓ Project Transaction</li> <li>✓ Energy Trading</li> <li>✓ VPP</li> <li>✓ New Energy Points Trading</li> <li>✓ Carbon Emissions Trading</li> </ul>
 Financial analytical software	 Residential EMS   C&I / Utilities EMS   Residential products  C&I / Utilities Products	 Transaction Today Sell to grid: 8.9 \$/MWh Buy from grid: 13.4 \$/MWh

# Residential Energy System Solution

## Easy

### Easy installation

Integrates power distribution and cable connection

### Easy O&M

Inverter and battery can be separated

### Easy capacity expansion

Inbuilt DC/DC in each battery module

## Smart

### Smart energy management

Built-in EMS function

### Automatic back-up switch

< 10 ms

### Intelligent monitoring

Real-time Cloud and App

## Investable

### Reliable power protection

Inbuilt UPS

### More flexible application

DC/AC coupled and Off-grid

### Long life and more available capacity

>10 years



# Working Modes



## Self-consumption mode

Realising the maximum self-consumption of solar energy.



## Time of use mode

Realising the maximum energy utilisation rate and users' income with flexible electricity consumption strategies at different times.



## Energy scheduling mode

Profit through programable charging and discharging time according price difference between peak and off-peak time



## Off-grid mode

Operating in a complete off-grid mode when no grid power is available



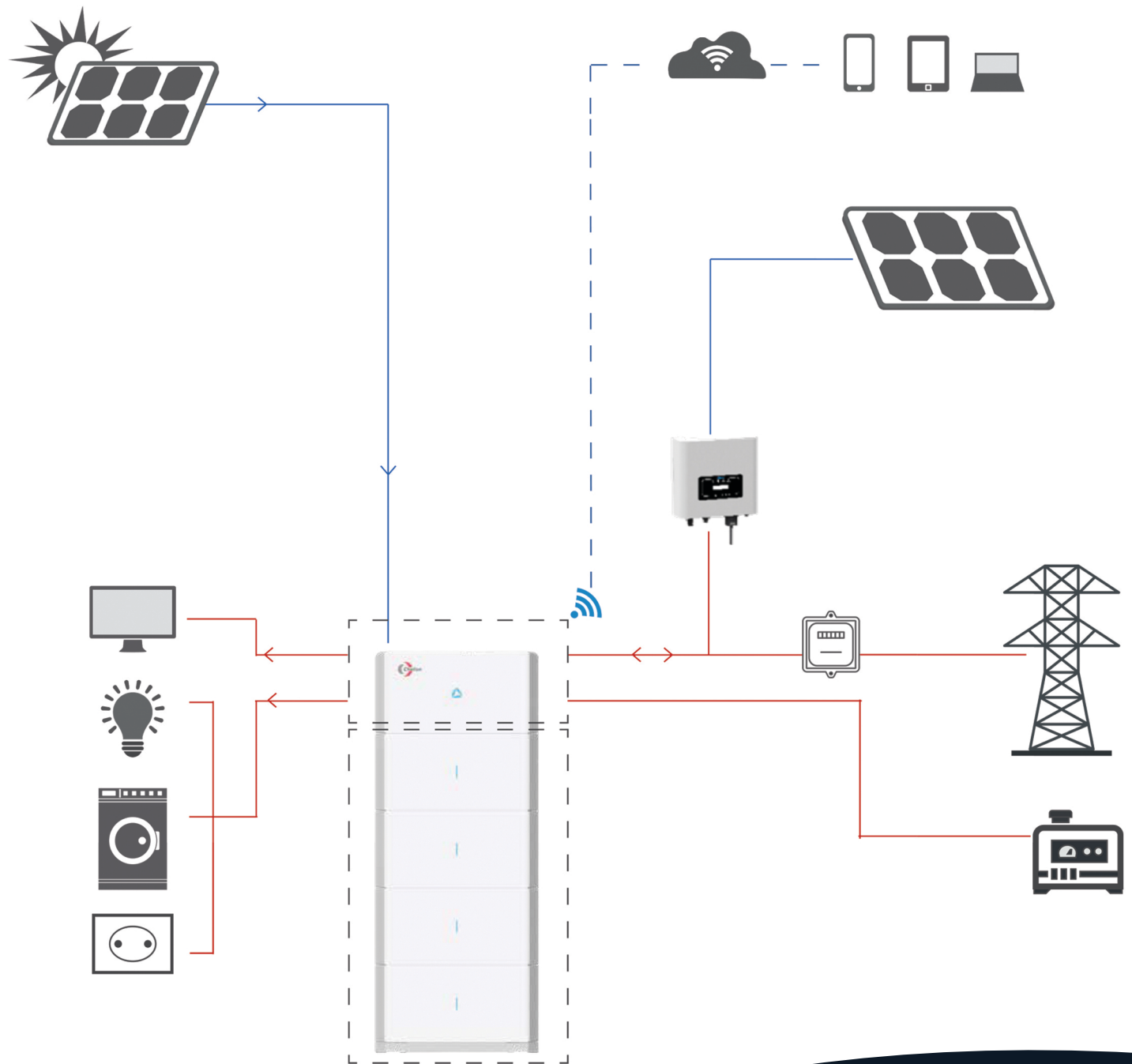
## External control mode

Remoting inverter control, realising full fleet control and operation(such as VPP)



## Back-up mode

Providing blackout protection as an energy back-up unit.





# iHome-S-HD1H01 Series


## Single Phase HV Residential Energy Storage System


Chelion's iHome-S-HD1H01 Series is an all-in-one solar and storage solution. The system comes pre-assembled for a seamless installation experience and is complemented with a modular battery design. Each battery module has a built-in DC/DC converter and is pre-optimised to perform at the highest level safely. In addition, it's more flexible and easily configured in new battery augmentation, allows mixed usage of both new and old batteries and completely utilises the full battery capacity.



 UPS with a transfer time < 10 ms  
Stronger back-up power up to 7.8kW

 Built-in EMS function with multi-mode operation  
Active equalisation and utilises strategy for battery charge and discharge

 Dual-isolation protection design  
Integrated modular fire suppression system  
Advanced AFCI function and detection of current leakage

 Standardized modular design  
Easy installation, operation, maintenance and expand

## Technical Data

Items	iHome-SXX**/5K-HD1H01	iHome-SXX**/6K-HD1H01
Inverter model	iHome-INV5K-H1H01	iHome-INV6K-H1H01
Number of inverter		1
Battery system model		iHome-B5-HD02
Number of battery module		1-8
Battery type		LFP
System capacity		5-40kWh
Rated system power	5kW	6kW
Round Trip Efficiency (AC to Battery to AC, at beginning of life)		89.20%
Round Trip Efficiency (PV to Battery to AC, at beginning of life)		90.60%
Dimension (W*H*D)	31.5*42.9*9.4inch (800*1090*240mm) (2 battery modules, with foundation) 31.5*11*9.1inch (800*280*232mm) (inverter), 31.5*15*7.9inch (800*380*200mm) (battery module)	
Weight	39.7lb (18kg) (inverter), 121.3lb (55kg) (battery module)	
Ingress protection	IP65	
Noise level	<25dB	
Cooling type	Passive cooling	
Altitude	6561 ft (2000m)	
Operating temperature	-4°F~122°F (-20°C~50°C)	
Recommended operating temperature	59°F~86°F (15~30°C)	
Storage temperature	14°F~113°F (-10~45°C)	
Operating humidity	0~100%RH	
Display	LED & APP	
Installation method	Floor or Wall-mounted (optional)	
Communication interface	Portal-WiFi(standard)/4G(optional), Meter-RS485	
Certification	VDE-AR-N 4105, VDE V 0124-100, G98, G99, UTE C15-712-1, VDE V 0126-1-1, EN50549-1, CEI0-21, AS4777.2, IEC62109-1/2, IEC61000-6-2/3, EN 61000-3-11, EN 61000-3-12, IEC62619, IEC62040, IEC 60730, UN38.3	
<b>Hybrid Inverter Specification</b>		
Items	iHome-INV5K-H1H01	iHome-INV6K-H1H01
<b>DC Input (PV)</b>		
Recommended Max. PV input power		9.0kWp
Max. PV input voltage		580Vdc
Max. PV input current		15A+15A
Max. short current		18.75A+18.75A
No. of MPPT / Strings per MPPT		2 / 1+1
MPPT voltage range		100~550Vdc
Starting voltage		100Vdc
DC (PV) switch		Yes
<b>DC Input (BAT)</b>		
Battery voltage range		360~500Vdc
Max. charge / discharge current	13.8A / 20.8A	16.7A / 21.7A
<b>AC Input and Output (On-grid)</b>		
Rated AC output power	5.0kW	6.0kW
Rated AC output voltage		220/230/240Vac
Grid voltage range		180~270Vac
Max. output current	21.7A	26.2A
Max. input current	43.4A	52.4A
Rated grid frequency		50/60Hz
Grid frequency range		45~55Hz/55~65Hz
Power factor		>0.99 (rated power)
Adjustable power factor		0.8 (leading) ~0.8 (lagging)
THDi		<3 % (rated power)
<b>AC Output (Back-up)</b>		
Rated AC output voltage		220/230/240Vac
Rated output frequency		50/60Hz
Rated output power	5.0kW	6.0kW
Peak output power	6.5kW, 60s 7.5kW, 30s	7.8kW, 60s
Switch time		<10ms
<b>Efficiency</b>		
Max. efficiency		97.70%
European efficiency		97.10%

\*Specifications are subject to change without prior notice.

\*\*XX indicates the battery capacity, such as 10, 15, or 20.

# iHome-B6.5-L01 Series

## Low Voltage Battery

The Chellon iHome-B-L01 Series is a top-class low voltage lithium battery designed with the home experience in mind. The battery will automatically recognise connected modules for an easier, faster, and safer installation. In addition to delivering unparalleled performance with an unprecedented ten-year service life



Top-class lithium iron phosphate battery with a long lifespan



Easy installation and capacity expansion



Automatically recognise modules



Multiple safety protection measures

## Technical Data

Items	iHome-B6.5-L01
Battery type	LFP
Energy capacity	6.5kWh
Cell configuration in pack	16S2P
Total capacity pack	128Ah
DOD	94.50%
Rated capacity	118Ah
Rated energy	6.0kWh
Rated voltage	51.2V
Voltage range	44.8~57.6V
Max. charge / discharge current	104.2A
Max. charge / discharge power	5kW
Peak charge / discharge power(@3S)	6.9kW
Dimensions(W*H*D)	18.7*30.1*5.7inch (475*765*145mm)
Weight	127.9±2.2lb (58±1kg)
Operating temperature	-14°F~122°F (-10~50°C)
Storage conditions	-4°F~113°F (-20~45°C); Within 6 month after each charge
Operating humidity	5%-95%RH
RTE	95%
Altitude	≤6561.7 ft (2000m)
Cooling type	Passive cooling
Room temperature calendar life(25°C±2°C)	10 years/60% SOH
Room temperature cycle life(25°C±2°C)	6000 cycles/60%SOH
Connection method	Floor or Wall mounted
Communication interface	CAN; RS485
Parallel connection	Max 8 PACKs
Ingress protection	IP55
Cell safety certification	IEC62619/UL1973
Pack safety certification	IEC62619/UL1973/CE/RCM /CE
UN transportation test standard	UN38.3+PI965 (Sea)

# iHome-INV-L1H02 Series

## Single Phase Hybrid Inverter

The Chelion iHome-INV-L1H02 Series of hybrid energy storage inverter comes in a smaller and lighter form than it's predecessor does. Its advanced design maximises energy flexibility. Compatible with both on-and-off-grid PV systems, it can intelligently balance use from the grid or battery to ensure energy consumption is always within economic or user-defined thresholds



16 Up to 16 inverters in parallel even under off-grid condition

IP65 IP65 and fanless design with a long lifespan

Flexible applications and alternative energy sources input

Built-in UPS function with 4ms automatic switching time

## Technical Data


Items	iHome-INV5K-L1H02	
	<b>DC Input (PV)</b>	
Recommended Max. PV input power	6.5kW	
Max. PV input voltage	500Vdc	
Max. PV input current	13+13A	
Max. short current	17+17A	
No. of MPPT / Strings per MPPT	2 / 1+1	
Full load DC voltage range	240~425Vdc	
MPPT voltage range	125~425Vdc	
Starting voltage	125Vdc	
	<b>DC Input (BAT)</b>	
Battery type	Lead-acid or Li-Ion	
Battery voltage range	40~60Vdc	
Max. charge / discharge current	120A	
External temperature sensor	Yes	
Charging curve	3 Stages / Equalization	
Charging strategy for Li-ion battery	Self-adaption to BMS	
	<b>AC Output</b>	
Rated AC output and UPS power	5.0kW	
Max. AC output and UPS power	5.0kW	
Rated AC current	21.7A	
Max. AC current	21.7A	
Max. continuous passthrough	35A	
Peak power(off grid)	2 time of rated power, 10 S	
Adjustable power factor	0.8 leading to 0.8 lagging	
Output frequency and voltage	50Hz/45Hz-55Hz; L/N/PE 230V/ 195.5V-253V, 240V/204V-264V	
Grid type	Split phase	
THDI	<3% (Linear load<1.5%)	
	<b>Efficiency</b>	
Max. efficiency	97.60%	
European efficiency	97.00%	
MPPT efficiency	99.90%	
	<b>Protection</b>	
Integrated	PV Input Lightning Protection, Anti-islanding Protection, PV String Input Reverse Polarity Protection, Insulation Resistor Detection, Residual Current Monitoring Unit, Output Over Current Protection, Output Shorted Protection, Surge protection	
Surge protection	DC Type II/AC Type III	
	<b>General</b>	
Dimensions(W*H*D)	13*17*9.4 inch (330*433*238mm)	
Weight	33.3lb (15.1kg)	
Ingress protection	IP65	
Noise level	<30dB	
Cooling type	Passive cooling	
Operating temperature	-49°F~140°F (-45~60°C), >113°F (45°C) derating	
Installation method	Wall-mounted	
Communication interface	RS485; CAN	
Warranty	5 years	
Certification	AS/NZS 4777.2, IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2	


# iHome-S-HD3H01 Series


## Three Phase HV Residential Energy Storage System


Chelion's iHome-S- HD3H01 Series is an all-in-one solar and storage solution. The system comes preassembled for a seamless installation experience and is complemented with a modular battery design. Each battery module has a built-in DC/DC converter and is preoptimised to perform at the highest levels safely. In addition, it's more flexible and easily configured in new battery augmentation, allows mixed usage of both new and old batteries and completely utilises the full battery capacity.



 UPS with a transfer time < 10 ms  
Stronger back-up power up to 7.8kW

 Built-in EMS function with multi-mode operation  
Active equalisation and utilises strategy for battery charge and discharge

 Dual-isolation protection design  
Integrated modular fire suppression system  
Advanced AFCI function and detection of current leakage

 Standardized modular design  
Easy installation, operation, maintenance and expand

## Technical Data

Items	iHome-SXX**/5K-HD3H01	iHome-SXX**/6K-HD3H01	iHome-SXX**/8K-HD3H01	iHome-SXX**/10K-HD3H01	iHome-SXX**/12K-HD3H01
Inverter model	iHome-INV5K-H3H01	iHome-INV6K-H3H01	iHome-INV8K-H3H01	iHome-INV10K-H3H01	iHome-INV12K-H3H01
Number of Inverter	1				
Battery system model	iHome-B5-HD03				
Number of battery module	1-8				
Battery type	LFP				
System capacity	5-40kWh				
Rated system power	5kW	6kW	8kW	10kW	12kW
Round Trip Efficiency (AC to Battery to AC, at beginning of life)	89.40%				
Round Trip Efficiency (PV to Battery to AC, at beginning of life)	90.80%				
Dimension (W*H*D)	31.5*78.5*9.4inch (800*1995*240mm)(4 battery modules, with foundation) 31.5*15.8*7.9inch (800*400*200mm) (inverter), 31.5*15*7.9inch (800*380*200mm) (battery module)				
Weight	66.1lb (30kg) (inverter), 121.3lb (55kg) (battery module)				
Ingress protection	IP65				
Surge protection	DC Type II & AC Type II				
Noise level	<30dB				
Cooling type	Passive cooling				
Altitude	≤6561 ft (2000m)				
Operating temperature	-4°F~122°F (-20~50°C)				
Recommended operating temperature	59°F~86°F (15~30°C)				
Storage temperature	14°F~113°F (-10~45°C)				
Operating humidity	0-100%RH				
Display	LED+APP				
Installation method	Floor or Wall-mounted (optional)				
Communication interface	Portal-WIFI (standard)/4G (optional), Meter-RS485, EMS-RS485 (sunspec) VDE AR-N-4105, VDE V0124-100, VDE 0126-1-1, EN 50549-1 (NCRFG), CEI 0-21, IEC/EN 62109-1, IEC/EN 62109-2, EN61000, IEC 62619, IEC 60730, UN38.3				
Certification					
<b>Hybrid Inverter Specification</b>					
<b>DC Input (PV)</b>					
Recommended Max. PV input power	9kWp		18kWp		
Max. PV input voltage	1000Vdc			18kWp	
Max. PV input current	16A+16A		27A+16A		
Max. short current	20A+20A		34A+20A		
No. of MPPT / Strings per MPPT	2 / 1+1		2 / 2+1		
MPPT voltage range	150-900Vdc				
Starting voltage	180Vdc				
DC (PV) switch	Yes				
<b>DC Input (BAT)</b>					
Battery voltage range	630-900Vdc				
<b>AC Input and Output (On-grid)</b>					
Rated AC output power	5kW	6kW	8kW	10kW	12kW
Rated AC output voltage	380/400Vac				
Grid voltage range	323-418Vac/340-440Vac				
Max. output current	7.6A	9.1A	12.2A	15.2A	18.2A
Max. input current	15.2A	18.2A	24.4A	30.4A	
Rated grid frequency	50/60Hz				
Grid frequency range	45-55Hz/55-65Hz				
Power factor	>0.99 (rated power)				
Adjustable power factor	0.8 (leading) -0.8 (lagging)				
THDi	<3% (rated power)				
<b>AC Output (Back-up)</b>					
Rated AC output voltage	380/400Vac 3W/N/PE				
Rated output frequency	50/60Hz				
Rated output power	5kW	6kW	8kW	10kW	12kW
Peak output power	12kW, 60s		20kW, 60s		
Max. output current	18.2A, 60s		30.4A, 60s		
Switch time	<10ms (without parallel), <300ms (parallel)				
Support the unbalanced load	Yes				
<b>Efficiency</b>					
Max. efficiency	98.30%				
European efficiency	97.50%				
*Specifications are subject to change without prior notice. **XX indicates the battery capacity, such as 10, 15, or 20.					




# iHome-B5-HD01-03 Series


## Battery with DC/DC Converter


Chelion's iHome-B5-HD Series is a top-class lithium battery module. There is a built-in DC/DC converter in the module that is optimised to perform most safely. The DC/DC converter facilitates module maintenance and battery replacement. It is flexible to add new batteries in the future without causing the "Buckets effect". And it is able to make the most of battery capacity.



 Built-in DC/DC

 More available capacity in the life cycle

 Flexible expansion

 Excellent safety and optimisation performance

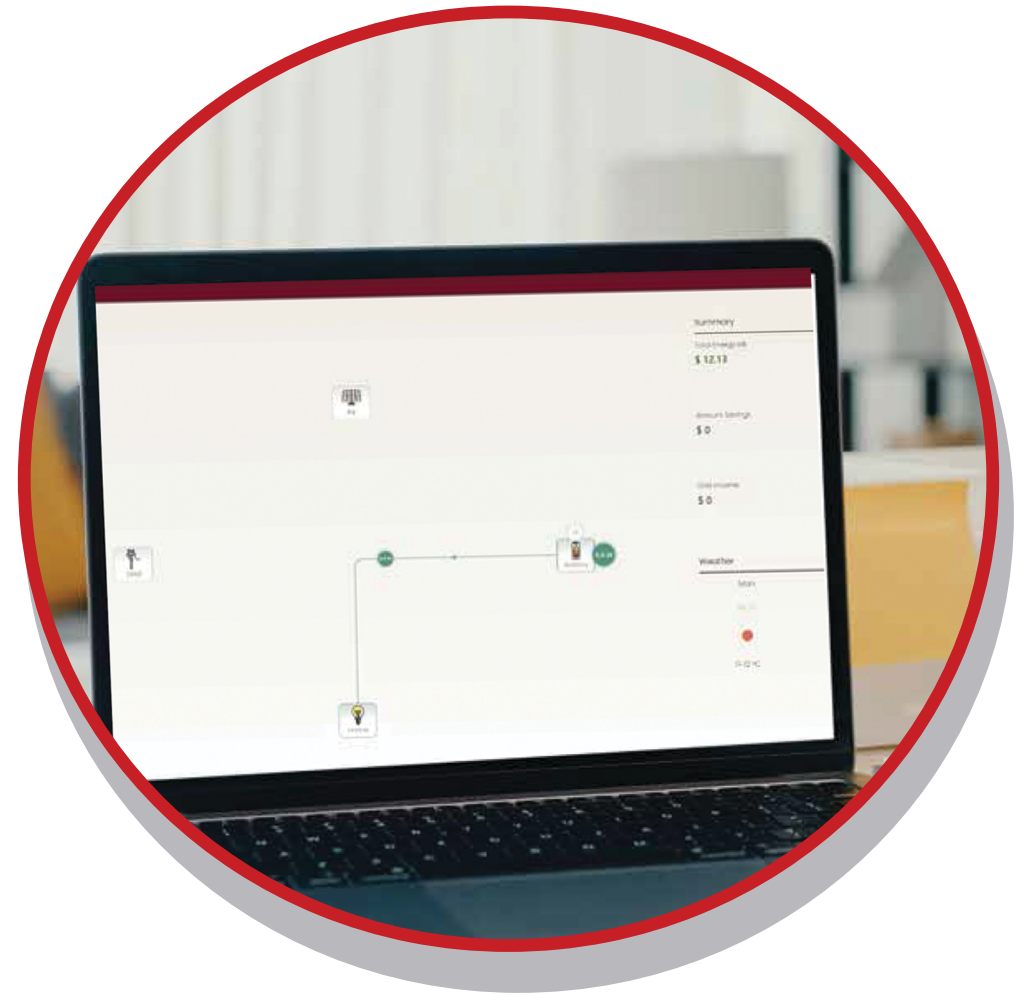
## Technical Data

Items	iHome-B5-HD01	iHome-B5-HD02	iHome-B5-HD03
Battery type		LFP	
Energy capacity		5kWh	
Usable capacity		5kWh	
Scalability		8	
Scalable capacity range		5-40kWh	
DOD		100%	
Rated power	2.5kW	4kW	4kW
Voltage range		360-500Vdc	650-900Vdc
Max. charge current	6.94A	11.11A	6.15A
Max. discharge current	6.94A	11.11A	6.15A
	8.3A, 10s	13.33A, 10s	7.38A, 10s
Dimensions(W*H*D)		31.5*15*7.9inch (800*380*200mm)	
Weight		121.3lb(55kg)	
Cooling type		Passive cooling	
Altitude		≤6561 ft (2000m)	
Operating temperature		-4°F~122°F (-20~50°C)	
Recommended operating temperature		59°F~86°F (15~30°C)	
Storage temperature		14°F~113°F (-10~45°C)	
Humidity		0-100%RH	
Display		LED	
Communication interface		RS485, CAN	
Topology		Isolated	
Connection method		Floor or Wall mounted (optional)	
Certification	UL1973, UL60730, UN38.3,		IEC 62619, IEC 60730, UN38.3

\*Specifications are subject to change without prior notice.

# Chelion Residential EMS

Chelion's Residential EMS is an all-round intelligent system designed to monitor variables and meet electric or financial consumption goals. A tailored power plan will automatically optimise system performance to meet user-defined targets and distribute system resources appropriately. The EMS also continuously collects big data, such as weather and grid rates, to improve accuracy. The Residential EMS's abundance of features and use of local and big data makes it a powerful and reliable all-in-one system for energy needs in any household.



User-defined energy goals and timeline periods can be set



Connects to a wide range of existing modules



Uses local and big data to optimise performance



Will continuously adapt the energy profile to identify energy saving opportunities



Connects to a wide range of existing modules



Integrated management and diagnostic tools sustain