

We Create Clean and  
Smart Energy to the World

Safe-Clean-Smart  
BESS Creator and Designer



iKran series  
**ePowercube**  
Residential

**superstate**

Superstate AB  
Nybohovsbacken 97, 117 64  
Stockholm Sweden

superstate

\* Superstate reserves the right to interpret and modify this document. In case of printing error or translation error, the company will not bear the consequences. The product specifications and appearance shall be subject to the real object.



This picture is just for reference.

## Hello, my name is iKran

iKran, Superstate's latest updated residential BESS (Battery Energy Storage System) series, was designed in Sweden and selects to use the safest battery cells, advanced hybrid energy storage PCS (Power Converter System). Integrated with a patented EMS (Energy Management System) and BMS (Battery Management System), iKran monitors the loads in real time, and provides safe and clean power supply solutions that match with your electricity usage habits to minimize your electricity bill. Meanwhile, it helps you to enjoy a low carbon lifestyle and independent power supply.

## What is my background?

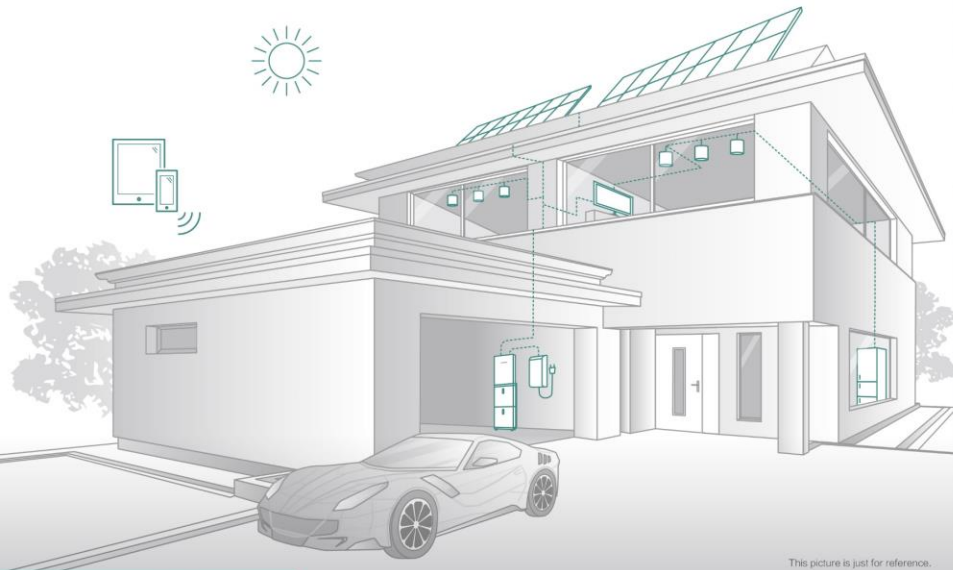
The founder of Superstate, Göran Bolin, is an inventor and business leader with over 40 years of experience in the European market for Solar and Energy Storage. Göran was awarded the Swedish Engineer of the year in 2019 and is the founder of several successful cleantech businesses. His vision is to create clean and intelligent energy for the world and accelerate the sustainable development of global energy. Adhering to this vision, Superstate focuses on scientific and technological innovation, and we are committed to providing our customers with safe, clean, intelligent energy, power products, and services.

## 'Peace of mind' solution

### safe, smart and clean

iKran provides an intelligent auto response within 10 ms when the grid is cut off. By maintaining your energy supply without any power flickers, iKran keeps your home warm and your appliances running at all times. As quiet as efficient, iKran operates below 25 dB, a level equivalent to the sound of a mosquito.





This picture is just for reference.



This picture is just for reference.

## Optimize your home for a clean and smart energy consumption

You can count on Superstate iKran series ePowercube. Our storage systems include the latest and highest quality Lithium battery cells, the Superstate smart Battery Management system(BMS) and integrated with Superstate Power Conversation System(PCS). The Battery system also comes with an industry leading warranty covering 80% of battery capacity after 10 years of daily cycling.



### Maximum Solar Power Self-Consumption

The extra electricity generated from a home solar system is typically exported to the grid. However, most homes use a significant amount of electricity in the evening, after their solar systems stop producing for the day. With Superstate iKran series ePowercube, the excess power will be stored and more clean energy can be used on-site even when the sun is not shining.



### Optimize Energy Value

iKran ePowercube is highly cost-effective and allows you to get the best return of your investment in solar PV. With solar plus storage, you have protection against rising costs from Time-of-Use(TOU) rates and can avoid buying power from the grid when the price is high. Solar cannot reduce the cost of purchased electricity for a household after the sun goes down without the help of energy storage.



### Clean & Smart Backup Power

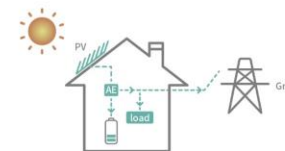
Backup power is a key benefit of iKran ePowercube. Solar systems cannot be used alone during a power outage. With our ePowercube, you can use your solar power when there is an outage, and the backup power will be recharged every day. With sustainable backup power, you rely less on the grid and have an eco-friendly alternative to a fossil fuel driven generator.



### EV Charging

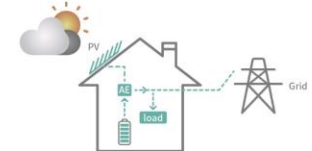
EV is becoming more and more popular. Our plug-in hybrid vehicles are often charged at night, after solar systems have stopped producing for the day. With iKran ePowercube, you can charge your car with self-produced clean energy at any time of the day or night. iKran ePowercube storage not only reduces your carbon footprint, but also helps to alleviate stress on the grid from EVs and overall reliance on fossil fuels.

## iKran ePowercube working modes



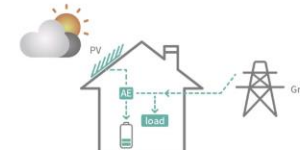
### FULL SUNSHINE, LOW BATTERY STATE OF CHARGE

The PV will charge the battery, meanwhile the excess PV energy will feed into the grid.



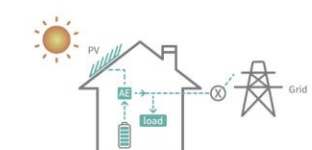
### HIGH BATTERY STATE OF CHARGE, LESS SUNSHINE

iKran ePowercube will supply the power to the loads when there is less sunshine.



### LESS SUNSHINE, LOW BATTERY STATE OF CHARGE

The grid will supply the power to the loads, and charge the battery. In this mode, the iKran ePowercube will guarantee the emergency power supply.



### GRID POWER FAILURE

When grid power is goes out, iKran ePowercube will automatically respond to the Emergency Power Supply working mode within 10ms.



SUPERSTATE ESS Supply You Uninterruptible Power



This picture is just for reference.

# iKran series ePowercube

Residential



A +LV



A +HV



A +Portable

## Why SUPERSTATE :



**High quality and safety**  
High quality and safe cell supplier+Superstate intelligent BMS.



**Remote control**  
iKran cloud platform, remote monitor and control.



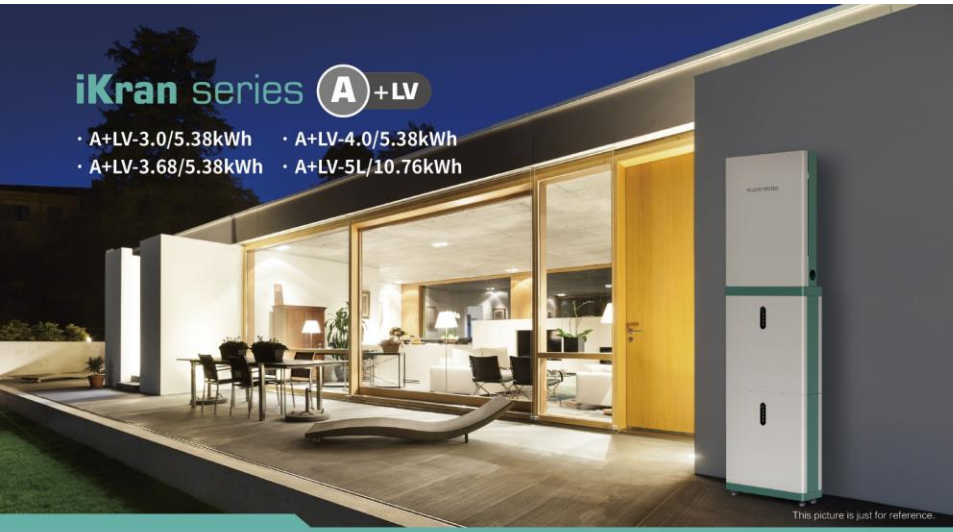
**High efficiency with integrated PCS solution**  
Hybrid energy complementarity, High Efficiency. Bidirectional energy flow design.



**All in One Slim design**  
Easy to install, cost saving, space saving.  
Looks just like a home appliance.

# iKran series **A** +LV

- A+LV-3.0/5.38kWh
- A+LV-4.0/5.38kWh
- A+LV-3.68/5.38kWh
- A+LV-5L/10.76kWh



This picture is just for reference.

Active detection to prevent failures and danger



Low noise <25db



Switching time <10ms



Slim Design Hang on the wall or stand alone



IP65 waterproof and dustproof



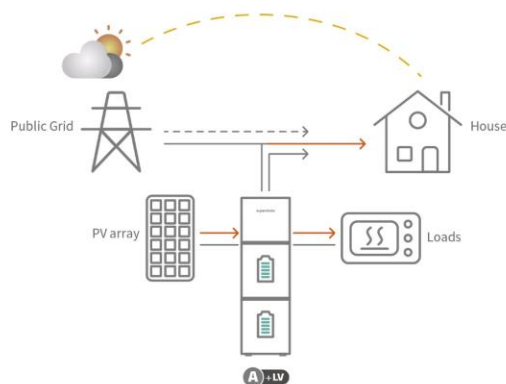
Low voltage



Long warranty >30MWh



Remote control



# iKran AOI **A** +LV Specifications

MODEL	A+LV-3.0/5.38kWh	A+LV-3.68/5.38kWh	A+LV-4.0/5.38kWh	A+LV-5L/10.76kWh
<b>PCS UNIT</b>				
<b>DC INPUT(DC)</b>				
Max PV array power(Wp)	6000	6680	7000	7500
Max DC voltage(V)			550	
Nominal DC operating voltage(V)			380	
Max input current(input A/Input B)			13/12	
Max short circuit current(input A/Input B)			15/17	
MPPT voltage range(V)			100 to 530 / 380	
Start operating voltage(V)			100 / 125	
No. of MPPT trackers/Strings per MPPT tracker			2/4	
<b>AC OUTPUT (Grid output/input)</b>				
Nominal AC power(WA)	3000	3680	4000	5000 **
Max apparent AC power(VA)	3000	3680	4000	5000 **
Nominal grid voltage(AC voltage range)(V)			180 to 280 / 230	
Nominal grid frequency(range)(Hz)			50/60Hz	
Max AC current(A)	13.6	16	18.2	22.7 **
Power factor			0.8 leading to 0.8 lagging	
THD(%)			<3	
Max grid input current power(VA)			6000	
Max grid input current (A)			8 < 27.3	
<b>BATTERY (BATTERY)</b>				
Battery type			Lithium Iron Phosphate	
Battery voltage range(V)			40~60	
Recommended battery voltage(V)			60	
Max continuous charge/discharge current(A)	90			130
Communication interfaces			RS485/CAN	
<b>EPS OUTPUT(WITH BATTERY)</b>				
EPS Max continuous apparent power(WA)			3000	
Peak output apparent power (VA)			4500, 10s	
EPS rated voltage(V), Frequency(Hz)			230, 50/60	
EPS Max continuous current(A)			a.c. 13.7A	
EPS peak apparent power(Rated)(s), Duration(s)			200% , 10s	
Switching time(ms)			<10ms	
THDv_linear load(%)			<3	
<b>EFFICIENCY</b>				
MPPT efficiency(%)			99.90	
Euro efficiency(%)			96.50	
Max efficiency(%)			97.60	
Battery charge/discharge efficiency(%)			94.7	
<b>POWER CONSUMPTION</b>				
Standby consumption(Night)(W)			10	
<b>STANDARD</b>				
Safety	EN50549-1, CEI 0-21, IEC61727, IEC61116, IEC60968, IEC61883, ABNT NBR 16148, ABNT NBR 16150, AS4777.2, VDE 4105, NF C55-732-3, RD1699, UNE 310605 IN, UNE 206007-1 IN, IEC62109-1/2			
EMC	IEC62040-1, IEC61000-6-1, IEC61000-6-3, IEC61000-3-11, IEC61000-3-12, IEC61000-4-16, IEC61000-4-18, IEC61000-4-29			
<b>ENVIRONMENT UNIT</b>				
Ingress protection(according to IEC60529)	IP65			
Operating temperature range(°C)	-10~55 ( >45°C, Derating)			
Max operation altitude(m)	2000			
Humidity(%)	0~95 (no condensation)			
Storage temperature(°C)	-20~60			
Noise emission(dB)	<21			
<b>BATTERY UNIT</b>				
Nominal Voltage(V)	51.2			
Operating voltage range(V)	45~58			
Total Capacity(kWh)	5.38			
Usable Capacity(kWh)	5.12			
Rated capacity(Ah)	105			
Standard power(kW)	2.5			
Max charge/discharge power(W)	5.0/5.0			
Recommend charge/discharge current(A)	58/50			
Max charge/discharge current(A)	100/100			
Cycle life(60% DOD)	>4000cycles			
Expected life time/Warranty(Year)	10			
Operating temperature range(°C)	-10~50			
Storage temperature(°C)	-20~60			
Humidity(%)	0~95 (no condensation)			
Altitude(m)	2000			
Ingress protection	IP65			
System to inverter communication/Communication with BMS	RS485/CAN			
Master LED indicator	LED			
System switch(on/off)	BMS button			
Safety certificate	IEC/EN 62619, IEC 63056, IEC 62477-1, IEC62040-1			
EMC	IEC61000-6-1, IEC61000-6-3, IEC61000-4-16, IEC61000-4-18, IEC61000-4-29			
UN number	3480			
Dimensions(W*D*H)(mm)	550*550*220			
Weight(kg)	58			
<b>GENERAL DATA</b>				
Dimensions(W*D*H)(mm)	550*240*1250	550*240*1250	550*240*1250	550*240*1800
Weight(kg)	85	85	85	145
Cooling	Natural			
Standard warranty(Years)	10			

\*\* Nominal AC power set to 4600 W for VDE-AR-4105 grid code

\*\* Apparent power set to 4600 W for VDE-AR-4105 grid code

\*\* Max. output current limited to 11.7 A when set to the AS/NZS 4777.2 grid code. Version: July, 2022

# iKran series **A** +HV

- 3.6H/5.12kWh
- 3.6H/10.24kWh
- 4.6H/5.12kWh
- 4.6H/10.24kWh\*
- 5.0H/5.12kWh
- 5.0H/10.24kWh
- 6.0H/5.12kWh
- 6.0H/10.24kWh



This picture is just for reference.

Active detection to prevent failures and danger



Low noise <25db



Switching time <10ms



Slim Design Hang on the wall or stand alone



IP65 waterproof and dustproof



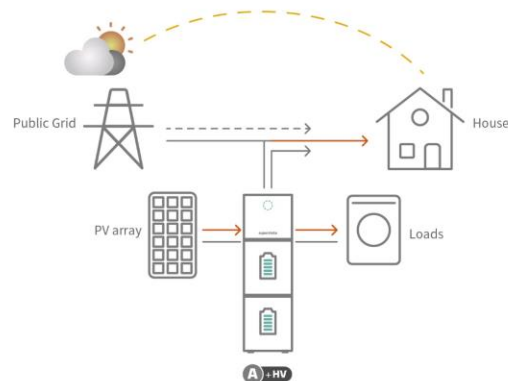
High voltage



Long warranty >30MWh



Remote control



# iKran AIO **A** +HV Specifications

MODEL	A+HV-3.6H/5.12kWh A+HV-3.6H/10.24kWh	A+HV-4.6H/5.12kWh A+HV-4.6H/10.24kWh	A+HV-5.0H/5.12kWh A+HV-5.0H/10.24kWh	A+HV-6.0H/5.12kWh A+HV-6.0H/10.24kWh
<b>PCS UNIT</b>				
<b>INPUT/DC</b>				
Max.PV array power(Mw)	4800	6200	6650	8000
Max.DC voltage(V)				
Nominal DC operating Voltage(V)	360			
Max.input current(input A/input B)	125/12.5			
Max.short circuit current(input A/input B)	18/18			
MPPF voltage range(V)	320-550			
Start operating voltage(V)	90			
No. of MPP trackers/strings per MPPF tracker	2/1			
<b>INPUT/AC</b>				
Max.apparent AC power(kVA)	7200	9200	10000	12000
Max.AC current(A)	31.2	40	43.4	52.2
Nominal grid voltage(AC voltage range)(V)	220/230/240			
Nominal grid frequency(range)(Hz)	50/60			
<b>OUTPUT/AC</b>				
Nominal AC power(kW)	5600	4600	5000	6000
Max.apparent AC power(kVA)	3600	4600	5000	6000
Nominal grid voltage(AC voltage range)(V)	220/230/240			
Nominal grid frequency(range)(Hz)	50/60			
Max.AC current(A)	17.2	22	23.9	28.7
Displacement power factor	1(0.8~0.8 adjustable)			
THDi, rated power(%)	< 3			
<b>OUTPUT/DC(BATTERY)</b>				
Battery type	Lithium Iron Phosphate			
Battery voltage range(V)	160~227.2			320~454.4
Recommended battery voltage(V)	227.2			454.4
Max.continuous charge/discharge current(A)	25/25			
Communication interfaces	RS485/CAN			
Reverse connect protection	Yes			
<b>EPS OUTPUT(WITH BATTERY)</b>				
EPS Max.continuous apparent power(kW)	4320	5520	6000	7200
EPS rated voltage(V),frequency(Hz)	230 (2N),50/60 (0.2N)			
EPS Max.continuous current(A)	28.7			
Switching time(ms)	< 10			
THDi, linear load(%)	< 2			
<b>EFFICIENCY</b>				
MPPF efficiency(%)	99.5			
EUts efficiency(%)	97			
Max efficiency(%)	97.6			
Battery charge/discharge efficiency(%)	98/96.7			
<b>POWER CONSUMPTION</b>				
Standby consumption(Idle)(W)	< 5			
<b>STANDARD</b>				
Safety	IEC62040-1:2019 AS/NZS 4777.2:2020 IEC 62109-1&2 IEC62619 UN38.3 IEC60730-2			
EMC	EN IEC 61000-6-2:2019 EN IEC 61000-6-3:2021			
<b>ENVIRONMENT LIMIT</b>				
Ingress protection(according to IEC60529)	IP65			
Operating temperature range(°C)	-10~55 (-45°C, Derating)			
Max.operation altitude(m)	2000			
Humidity(%)	0~95 (no condensation)			
Storage temperature(°C)	-20~60			
Altitude(m)	< 25			
<b>BATTERY UNIT</b>				
Nominal voltage(V)	204.8			
Operating voltage range(V)	160~227.2			
Total Capacity(kWh)	5.12			
Usable Capacity(kWh)	4.6			
Rated capacity(Ah)	25			
Standard power(kWh)	1.68			
Max.charge/discharge power(kW)	5.68			
Recommend charge/discharge current(A)	8.25			
Max.charge/discharge current(A)	25			
DOD(%)	90			
Expected life time/Warranty(Year)	10			
Operating temperature range(°C)	-10~55			
Storage temperature(°C)	-20~60			
Humidity(%)	0~95 (no condensation)			
Altitude(m)	2000			
Ingress protection	IP65			
System to inverter communication/Communication with BMS	RS485			
System switch(on/off)	DC-PV2			
Safety certificate	IEC62040-1:2019 AS/NZS 4777.2:2020 IEC 62109-1&2 IEC62619 UN38.3 IEC60730-1			
EMC	EN IEC 61000-6-2:2019 EN IEC 61000-6-3:2021			
UN number	3480			
Dimension(W*D*H)(mm)	550*553*233			
Weight(kg)	47			
<b>GENERAL DATA</b>				
Dimension(W*D*H)(mm)	550*231*1125(5.12kWh AIO)		550*231*1750(10.24kWh AIO)	
Weight(kg)	68		115	
Cooling	Natural			
Standard warranty(Year)	10			
*Only for Germany market				

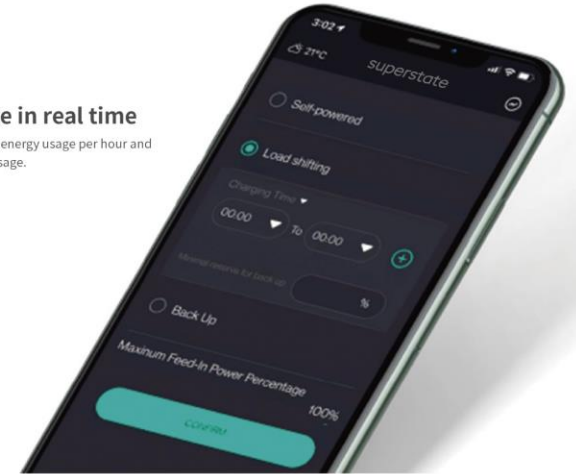


# iKran Cloud platform



## View your energy usage in real time

Real time usage information to track your energy usage per hour and understand the costs associated to that usage.



## The master of your home energy

The iKran Cloud platform will let you know more about how your home energy is consumed, supporting you to optimize your home for a clean and smart energy consumption.



Energy Flow

Energy Consumption

Energy usage

Notice



## Customize as you like.

Self Powered Mode, Load Shifting Mode or Back-Up Mode, choose the best mode for you.

## Contact Us

### superstate

Superstate AB  
Nybohovsbacken 97, 117 64  
Stockholm, Sweden

[www.superstate.se](http://www.superstate.se)

E-mail  
✉ [info@superstate.se](mailto:info@superstate.se)



superstate