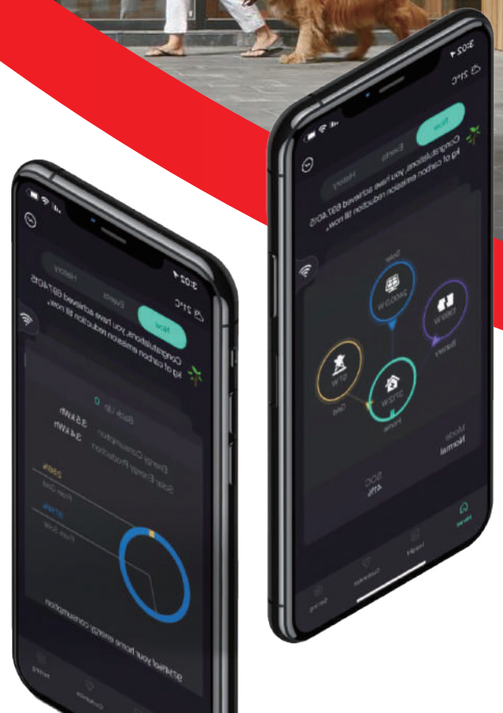
All-in-one ESS



ES Residential ESS-H

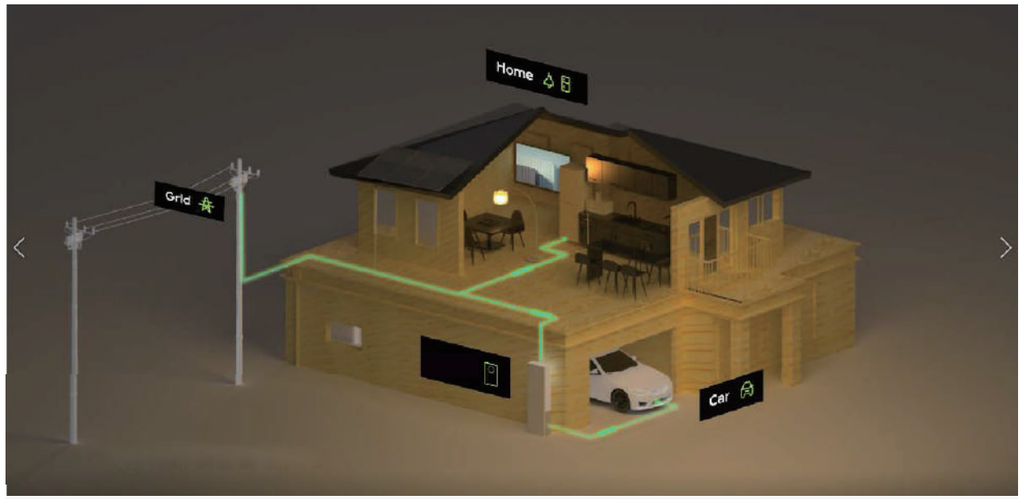
All In One, One For All

More Efficient More Resilient Improved Temperature Cycle

- **High system power density, with only 89Wh/kg**
- **Battery preinstalled, more convenient for on-site installation**
- **No more other accessories**
- **UPS level provide backup power**
- **Switching time < 10ms**
  Make you feel no perception of power outages
- **Noise < 25db**
  Super quiet, in and out
- **IP65**
  Choose the place you want to install

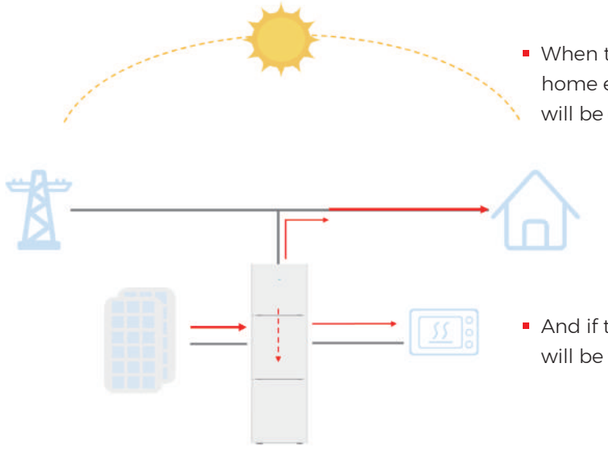
Mode A: Self-Power

Even there is no sunlight,
you can still use the stored clean energy day and night.



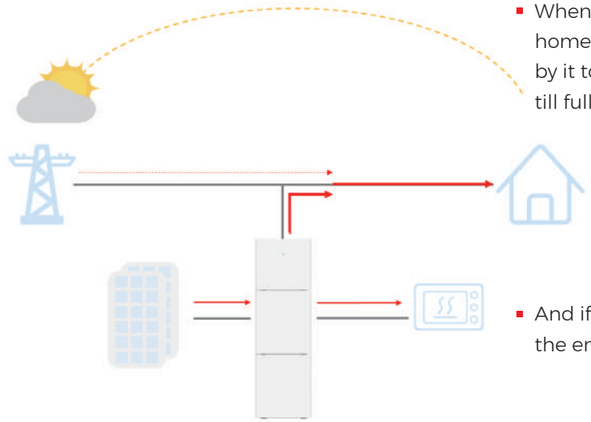
Normally, the clean energy generated by your solar system can be almost used up by your home rather than fed into the utility grid. In this way, you are making more contribution to reduce the carbon emission. Besides, you can save money by less using the peak hour electricity.

Sunny time at noon, or low home energy needs



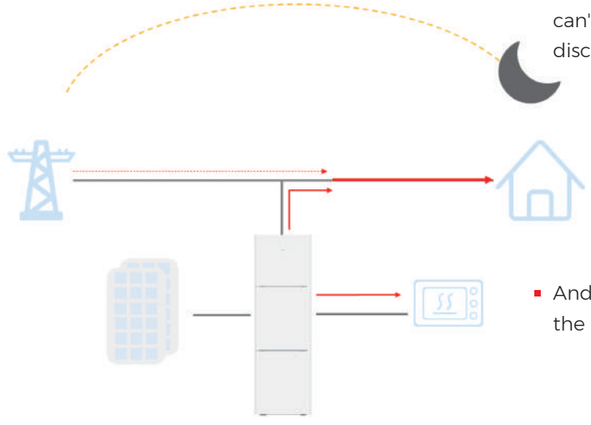
- When there is enough solar power to support home energy consumption, the extra solar power will be charged to the battery in Estar later use.
- And if the battery is fully charged, the solar energy will be fed into the utility grid.

Not to much sunlight in morning, at dusk, in bad weather or high home energy needs



- When there is not enough solar power to support home energy consumption, battery will discharge by it to meet power needs, using the stored energy till fully consumed.
- And if the solar panels and battery still can't cover the energy consumption, the utility grid will be used.

No sunlight at night or cloudy days



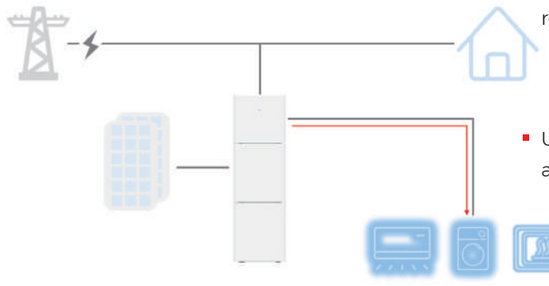
- When at night or in cloudy days, the solar panels can't generate any power, the battery in Estar will discharge to support your home energy needs.
- And if the your home energy needs is high, the utility grid will help.

Mode B: Back up

The switching time less than 10ms allows your appliances uninfluenced.
Just keep focusing on your things.

We can imagine how bad it is when some unexpected power outages happen, especially when you are enjoying family time with your children, having party with your friends, or doing important work.
Back up function is absolutely important for such accidents.
And it is real with Estar that in whichever mode, it always protect you from this situation.

Power outage at night or cloudy days

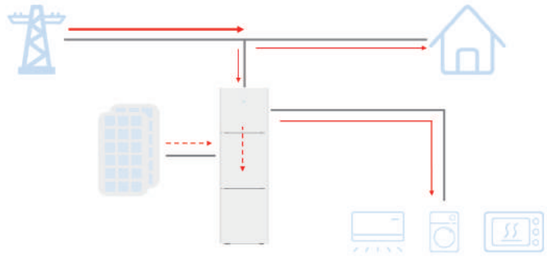


- When a power outage occurs, your important appliances connected to the Estar EPS port will remain working until the stored energy is used up.
- Usually 10kWh capacity will help you get through a whole day.

Mode C: Load shifting

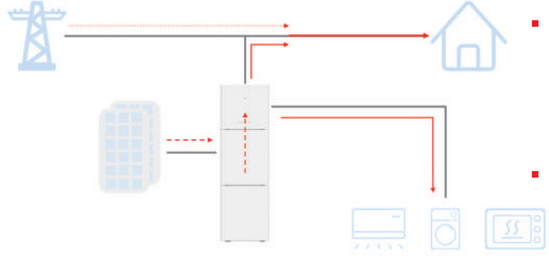
Always using the cheaper energy from the utility grid,
and saving money everyday.

Off-peak hour: charge from the gird



- When you choose load shifting mode, you can use cheaper power Estar. Estar will charge battery at off-peak hour when the electricity price is low.

Peak hour: discharge to the house



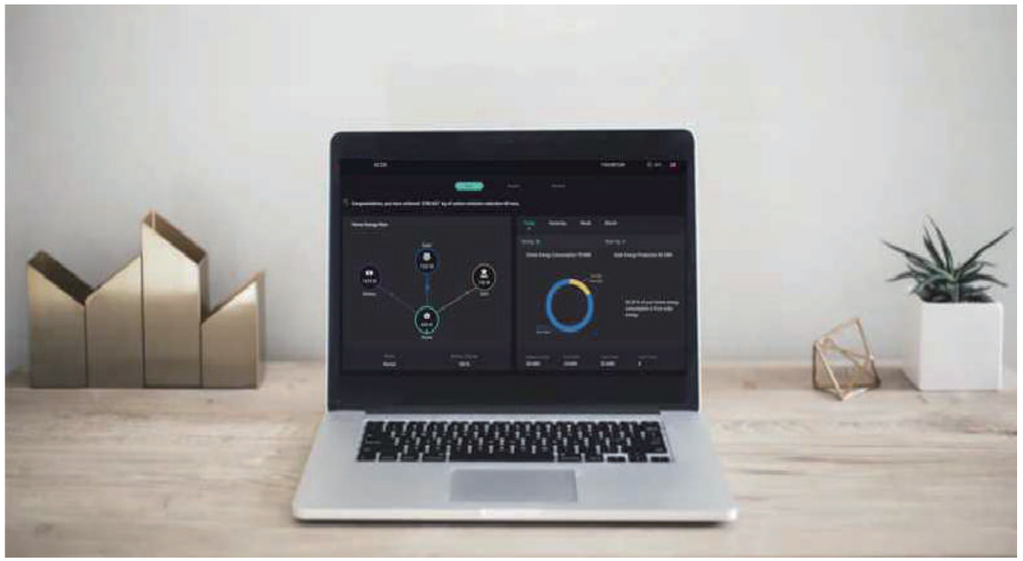
- Furthermore, Estar will discharge to meet your home energy needs at peak hour when the electricity price is high. In this case, you can always use the power at a lower price.
- Still, the EPS will work when there is an outage.

	ESS-H-3.6H -5.12kWh	ESS-H-4.6H -5.12kWh	ESS-H-6.0H -5.12kWh	ESS-H-3.6H -10.24kWh	ESS-H-4.6H -10.24kWh	ESS-H-6.0H -10.24kWh
PV Input						
Absolute max Voltage [d.c.V]	600					
MPPT Voltage Range [d.c.V]	100~550					
Max. DC Input Power [W]	4800	6200	8000	4800	6200	8000
Start-up Voltage [d.c.V]	90					
Rated Operating Voltage [d.c.V]	360					
Max. Input Current [d.c.A]	12.5/12.5					
Max. inverter backfeed current to array [d.c.A]	0					
Isc PV [d.c.A]	18/18					
NO.of MPP Trackers	2					
NO.of Strings per MPP Tracker	1					
Battery Model	**ESS-H-5.12**			**ESS-H-10.24**		
Battery Capacity	LiFePO4 5.12kWh			LiFePO4 10.24kWh		
Nominal Battery Voltage [d.c.V]	204.8			409.6		
Battery Voltage Range [d.c.V]	160~227.2			320~454.4		
Max. Charge/Discharge Current [d.c.A]	25/25					
AC Input/Output						
Rated output Power [W]	3600	4600	6000	3600	4600	6000
Rated Apparent Power to Grid [VA]	3600	4600	6000	3600	4600	6000
Max. Apparent Power to Grid [VA]	3600	4600	6000	3600	4600	6000
Max. Apparent Power from Grid [VA]	7200	9200	12000	7200	9200	12000
Rated Voltage [a.c.V]	220/230/240					
Rated Frequency [Hz]	50/60					
Rated AC Current to Grid [a.c.V]	15.6	20	26.1	15.6	20	26.1
Max. output current [a.c.V]	17.2	22	28.7	17.2	22	28.7
Max. Current from Grid [a.c.A]	31.2	40	52.2	31.2	40	52.2
Inrush current [a.c.A]	16 a.c.A (peak), 11.3 us (duration)					
Max. output fault current [a.c.A]	57 (peak), 40 (rms)					
AC output Maximum output overcurrent protection[a.c.A]	40					
AC input power factor	-0.8~+0.8					
AC output power factor	1 (-0.8~+0.8 adjustable)					
THDi	<3%					

	ESS-H-3.6H -5.12kWh	ESS-H-4.6H -5.12kWh	ESS-H-6.0H -5.12kWh	ESS-H-3.6H -10.24kWh	ESS-H-4.6H -10.24kWh	ESS-H-6.0H -10.24kWh
EPS Output (With Battery)						
Max. Output Power [W]	3600	4600	6000	3600	4600	6000
Rated Apparent Power [VA]	4320	5520	7200	4320	5520	7200
Max. Apparent Power [VA]	4320	5520	7200	4320	5520	7200
Rated Voltage [a.c.V]	230 (±2%)					
Norminal Frequency [Hz]	50/60 (±0.2%)					
Max. Output Current [a.c.A]	18.8	24	31.3	18.8	24	31.3
Inrush current [a.c.A]	16 a.c.A (peak), 11.3 us (duration)					
Max. output fault current [a.c.A]	57 (peak), 40 (rms)					
EPS output Maximum output overcurrent protection [a.c.A]	40					
Switch time [ms]	<10					
THDv @ Linear Load [%]	<2					
Power Factor	-0.8~+0.8					
General Data	**ESS-H-5.12**			**ESS-H-10.24**		
Dimension (W/D/H) [mm]	550×233×1125			550×233×1750		
Dimension of Packing (W/D/H) [mm]	645×302×1370			655×302×2055		
Net weight [kg]	68			115		
Gross weight [kg]	78			130		
Operation Temp [˚C]	-10~+55					
Relative Humidity [%]	0~95					
Altitude [m]	<= 4000 (>3000 Derating)					
Ingress Protection	IP65					
Cooling	Natural					
Inverter Topology	Non-isolated					
Human Interface	LED/APP					
BMS Communication Interface	RS485/CAN					
Meter Communication Interface	RS485					
Noise Emission [dB]	<25					
Standby Power Consumption [W]	<5					
Safety and Approvals						
Safety	IEC62040.1:2019, AS/NZS 4777.2:2020, IEC 62109-1&-2, IEC62619, UN38.3, IEC60730-1					
EMC	EN 61000-6-2/3, IEC 61000-3-11/12, IEC61000-6-2, IEC61000-4-2/3/4/5/6/8					

ECOS

The Master Of Your Home Energy



Energy access

View energy usage in real time

Let every second of energy use be mastered.

Insight

Insights into home energy use

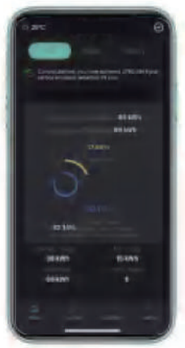
The insight will let you know more about how your home energy is consumed, like whether energy is being wasted.
Better improve your behaviors to reduce carbon emissions and save the planet.

Customize

Customize as you like

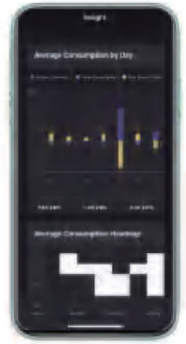
Self-powered (by default), Load shifting and Back up modes, choose the best one for you.

Energy Flow

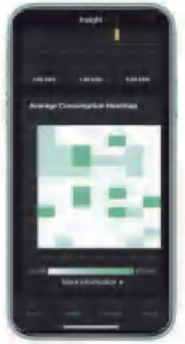


Energy Usage

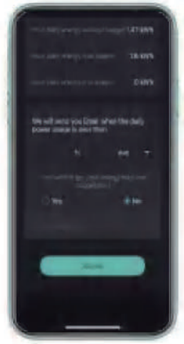
History



Energy Consumption



Energy Heatmap



Notice

The insight will let you know more about how your home energy is consumed, like whether energy isbeing wasted. Hence you can decide how to make it better.