

SUNJUNIOR



Europower Enerji ve Otomasyon Teknolojileri San. Tic. A.Ş.



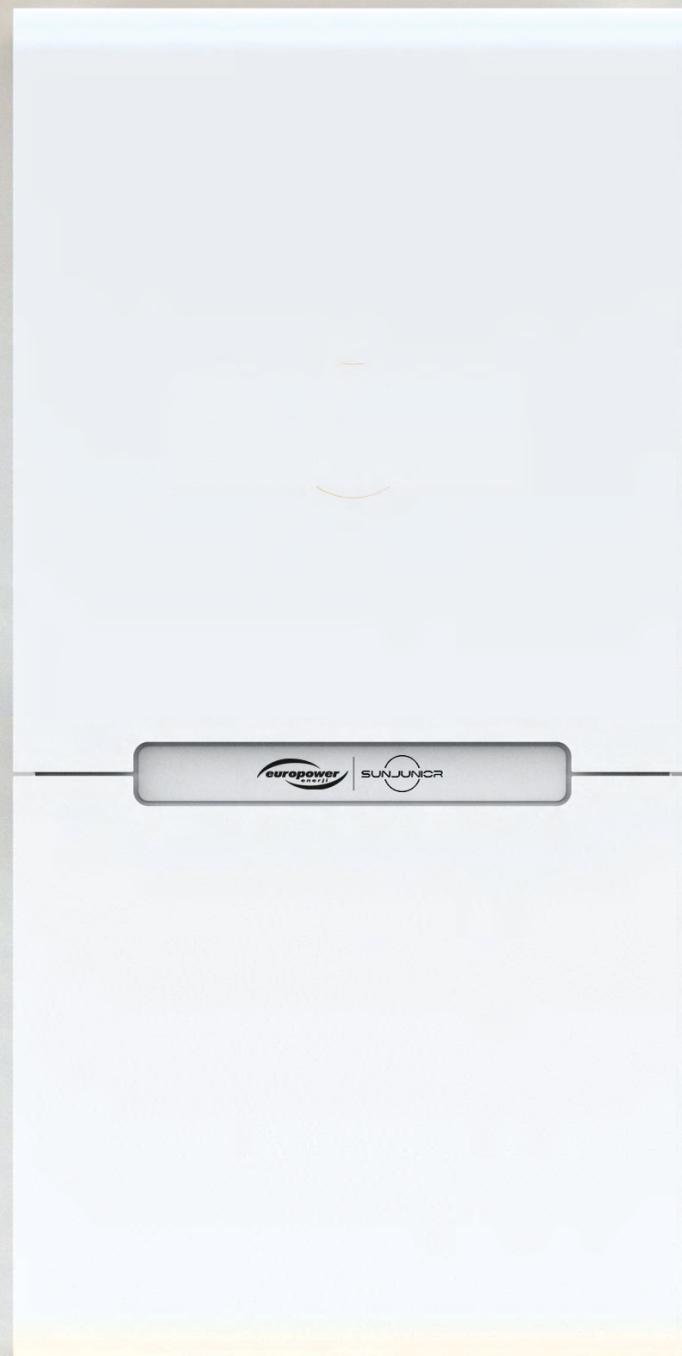
A hand is shown from the bottom, holding a white rectangular device. The device has a small label in the center with the 'europower' logo and 'SUNJUNIOR' text. The background is a dramatic sunset with orange and red clouds. A dark blue horizontal band is on the right side of the image, containing white text.

What if there was a way
to generate your own
green electricity with
no need of UPS or generator

**At Home,
At The Office!**



Sustainable
Reliable
Green Economy



Utilizing The Power of The Sun Wherever & Whenever You Need It!

All in One Architecture: Hybrid Inverter, Energy Storage System & Electrical Controller

EuroSunjunior System is a complete photovoltaic solar energy system; including hybrid inverter, batteries, control units, protection switches, fuses and all necessary connections to meet a wide range of requirements, suitable for a large number of usage and consumption scenarios.

Together with the EuroSunjunior system, solar panels and mounting systems required for the applications can be also supplied optionally. This system, which has all the main components of a solar energy application, is sent tested and ready to use after all connections are made.

EuroSunjunior can be used with batteries up to 90 kWh, grid connected or off-grid, and is ready to integrate into all solar panel configurations starting from 3.7 kW up to 25 kW.

In addition to generating electricity from the sun for domestic and commercial use, this smart system can be used in many different scenarios, such as to provide auxiliary energy during natural disasters or power outages, or to power construction sites.

EuroSunjunior will provide you the energy of the sun wherever and whenever you need it for domestic, agricultural, commercial, industrial and emergency applications.



Lower your energy bills as you start using the system



No need for UPS since the unit provides perfect sine wave electricity



Aesthetic, easy to install. No or little upkeep required.



Only home appliance to pay for itself after 4* years time.



Expandable storage solutions



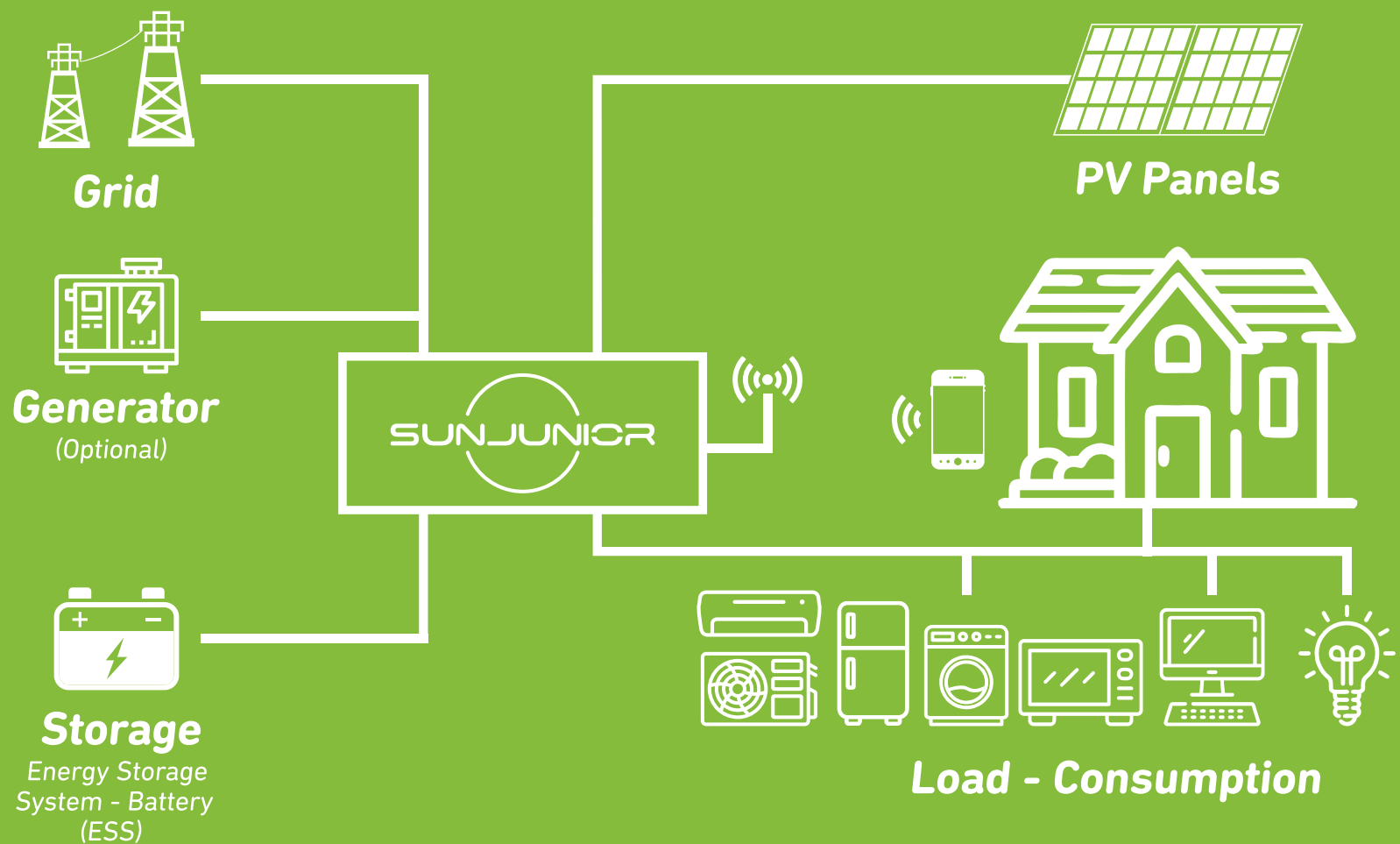
Make your workplace and your home comfortable.



Leaves no carbon footprints and open to economic incentives.

* According to recent energy prices. Depends on the actual installed system.

EuroSunjunior System can be connected ON-GRID **or** HYBRID



The complete system box must only be connected to the solar panels and optionally to the grid and/or to the storage batteries.

After this small procedure you are good to go!

EuroSunJunior System Includes

- ▶ Hybrid / On-Grid Inverter
- ▶ Expandable Battery (with Hybrid Inverter)
- ▶ Solar Panels
- ▶ AC & DC Cables
- ▶ LV Security & Control Units
- ▶ Construction Materials
- ▶ Smart Application
- ▶ EV (AC) CHARGER (Optional)

Storage Units - LV



SunJunior: Your Home's Solar Energy Master

SUNJUNIOR has a revolutionary app that empowers you to take control of your home's solar energy system. It provides an intuitive interface to monitor, manage and optimize your energy usage, saving your money and minimizing reliance on the grid. Here are some key ways **SUNJUNIOR** controls your energy:



Real-time Monitoring

- › Get a clear overview of your solar panel performance, including power generation, battery status, and historical data.
- › Monitor energy consumption in real-time, identifying potential areas for optimization.
- › View detailed insights into energy usage by appliance, providing valuable information for making informed decisions.



Smart Automation

- › Schedule automated charging and discharging of your battery based on energy production, consumption patterns, and grid costs.
- › Set automated energy-saving routines for specific times or events, maximizing efficiency.
- › Utilize intelligent algorithms to prioritize solar energy utilization, reducing reliance on the grid and minimizing energy bills.



Demand Management

- › Receive alerts when peak demand periods approach, allowing you to take proactive measures to reduce energy consumption.
- › Implement pre-configured energy saving modes to automatically adjust appliance usage during peak times.
- › Control specific appliances remotely, ensuring efficient energy usage even when you're away.



Intelligent Insights

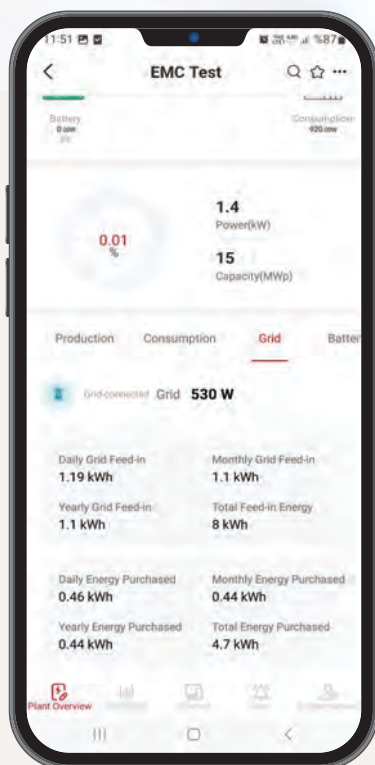
- › Analyze historical data to identify trends and patterns in your energy consumption.
- › Receive personalized recommendations on how to optimize your further energy usage and savings.
- › Gain valuable insights into your carbon footprint and environmental impact.

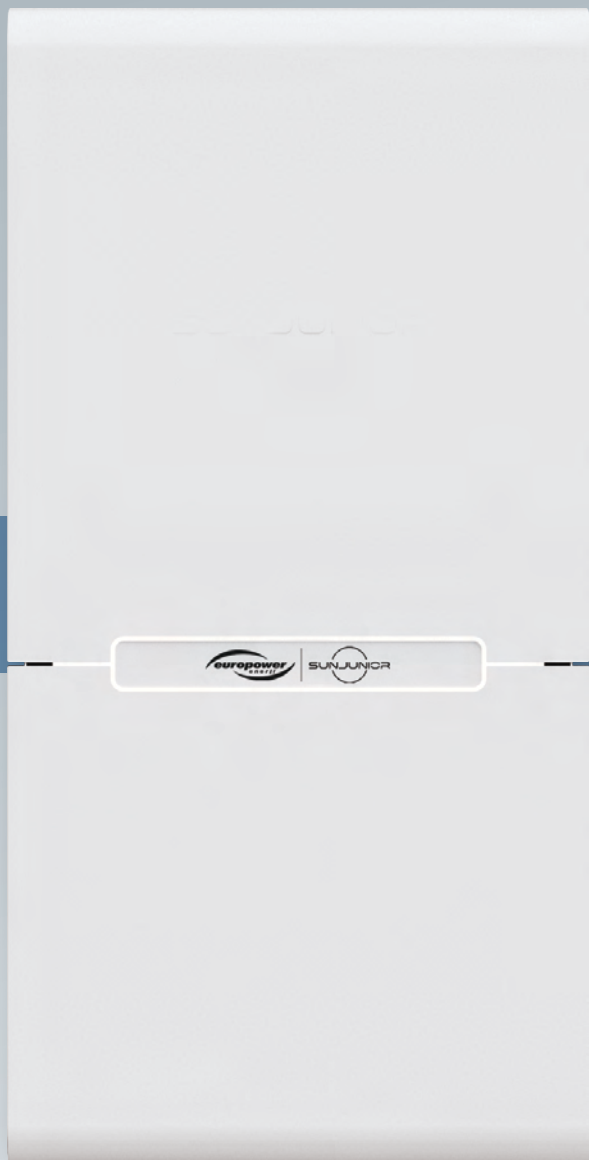


Seamless Integration (R&D Stage)

- › Connect SUNJUNIOR to your smart home ecosystem for seamless integration and control.
- › Create personalized scenarios & automation rules to suit your specific needs & preferences.
- › Receive notifications & updates directly on your mobile device for a true connected experience.

By providing real-time monitoring, intelligent automation, demand management, and valuable insights, SUNJUNIOR empowers you to become a master of your home's energy. With this powerful app, you can maximize the efficiency and benefits of your solar energy system, saving money and contributing to a greener future.





SJ-1P

3.7 kW or 5 kW hybrid SunJunior
with 5.12 kWh ESS Solution



EV Charger

AC-7.6 kW / 11 kW / 22 kW



SJ-ESS-LV

5.12 kWh LV ESS
LFP Battery with BMS





SJ-1P-EV

3.7 kW or 5 kW hybrid SunJunior
with 5.12 kWh ESS Solution with
7.6 kW EV Charger



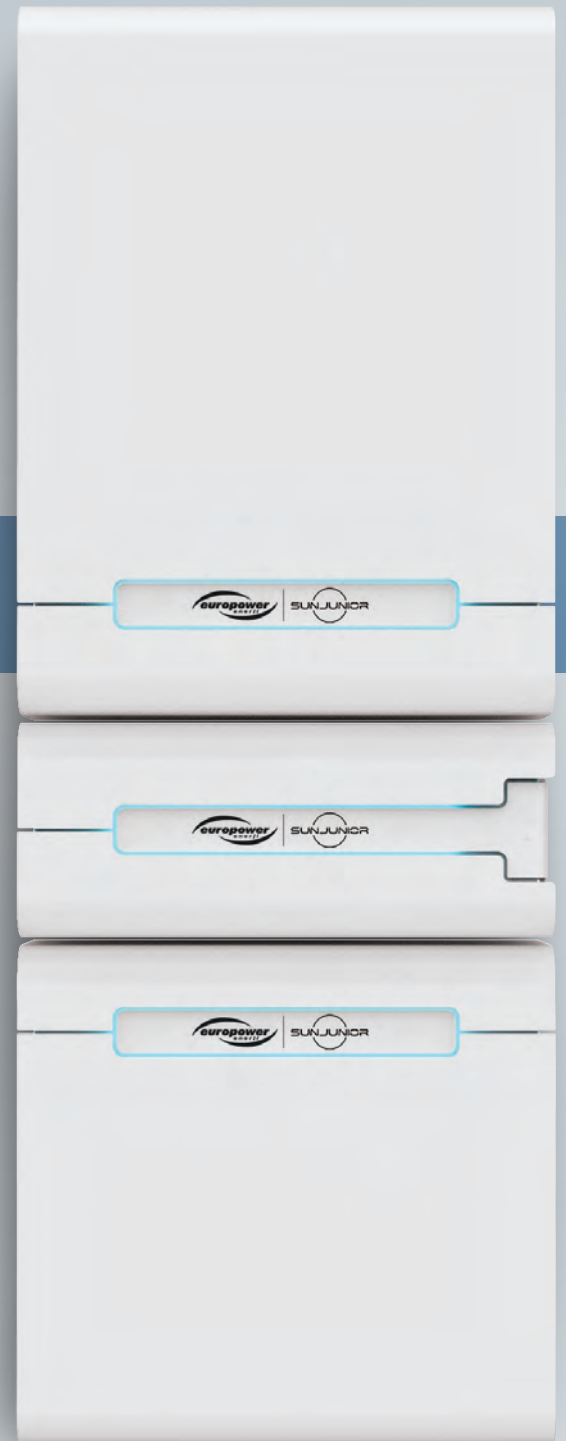
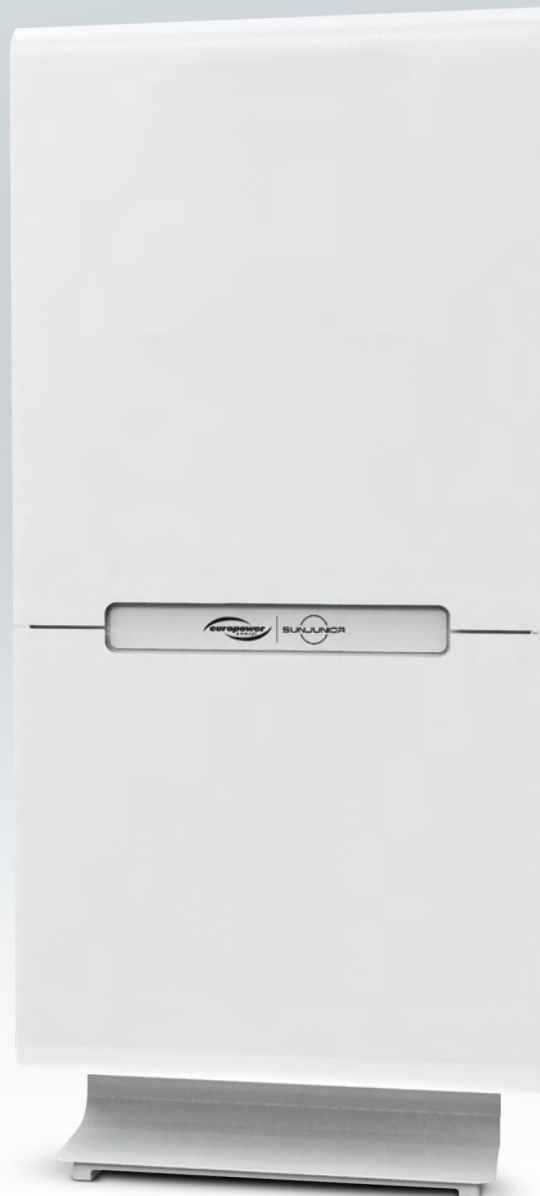
SJ-ESS-HV

10.24 kWh - 20.48 kWh
HV ESS LFP Battery with BMS



SJ-3P

10 kW / 15 kW / 20 kW
Hybrid SunJunior



Why GO SOLAR?

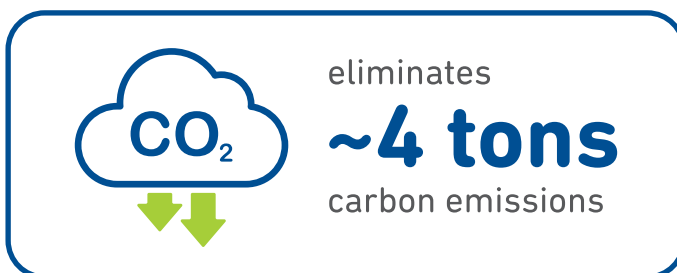
Solar power stands out as an effective means for all of us to combat the impacts of climate change. Through the reduction of our carbon footprint and the consequent decrease in harmful emissions into the atmosphere, we each have a role to play in mitigating climate change. Consider these reasons to transition to solar energy:



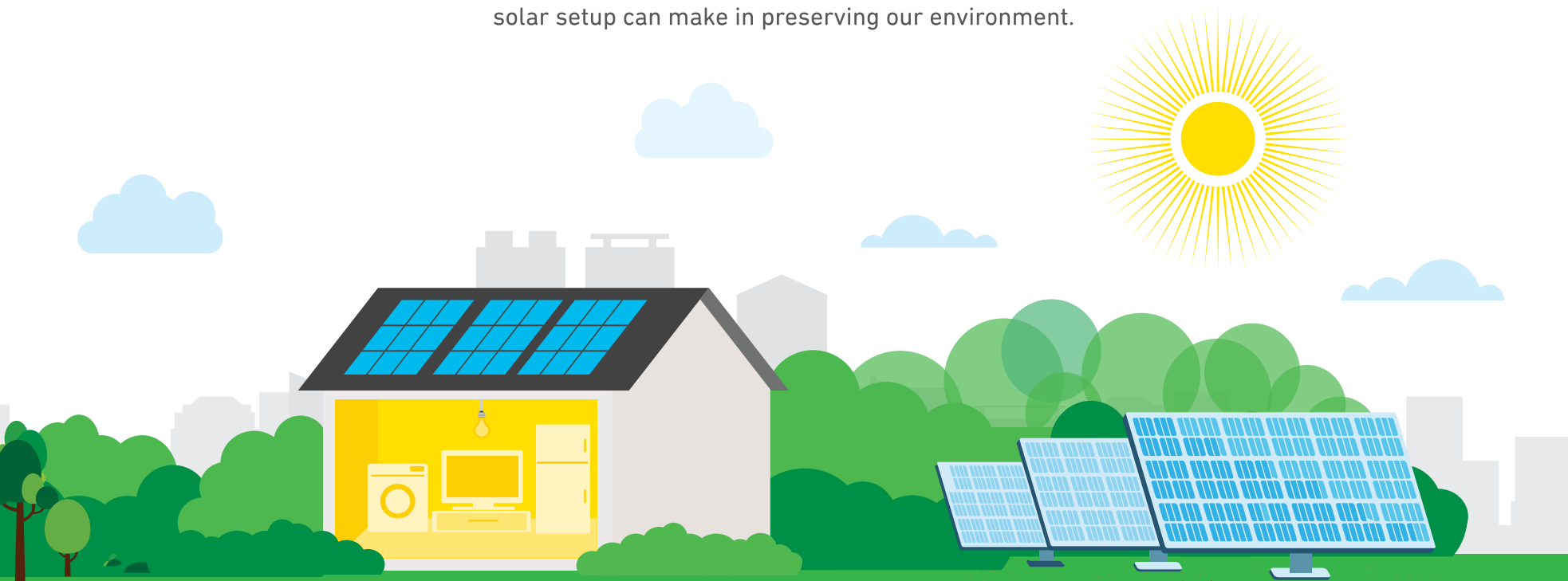
Typical 10kW Solar Rooftop System

can annually eliminate approximately 4 tons of carbon emissions.

To put it in perspective, this is roughly equivalent to the positive environmental impact of planting more than 100 trees each year.



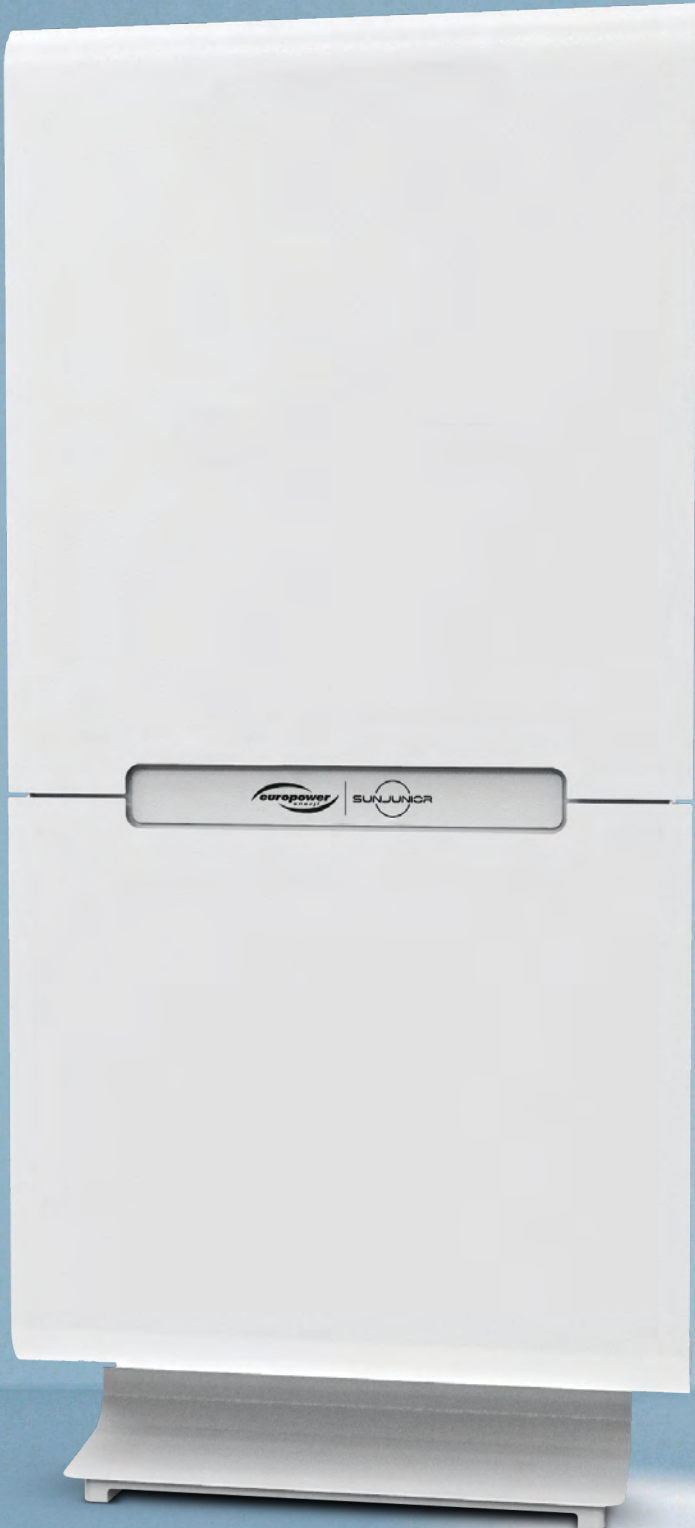
Larger solar installations can be even more impactful, with some installations having up to 10 times the emissions-reducing effect. This underscores the substantial difference even a single residential solar setup can make in preserving our environment.

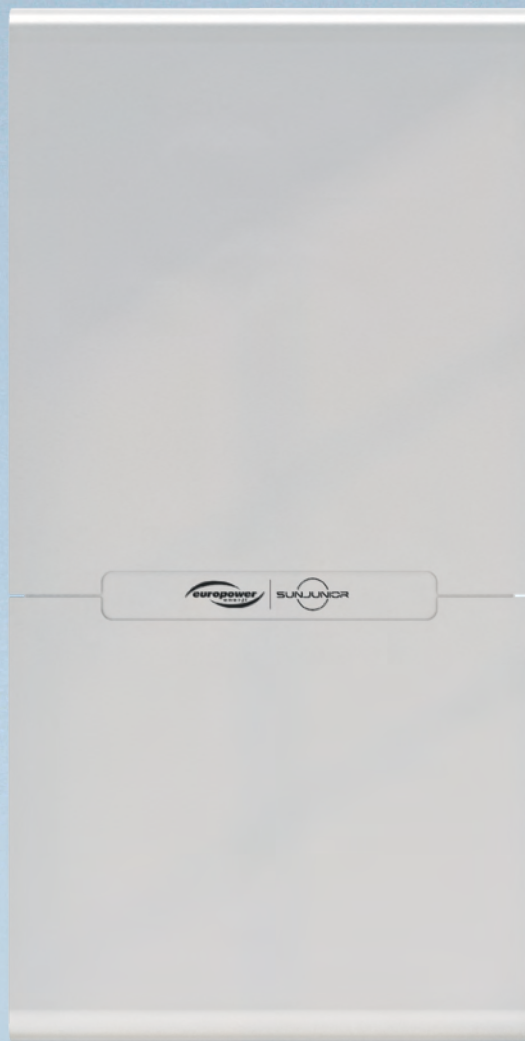
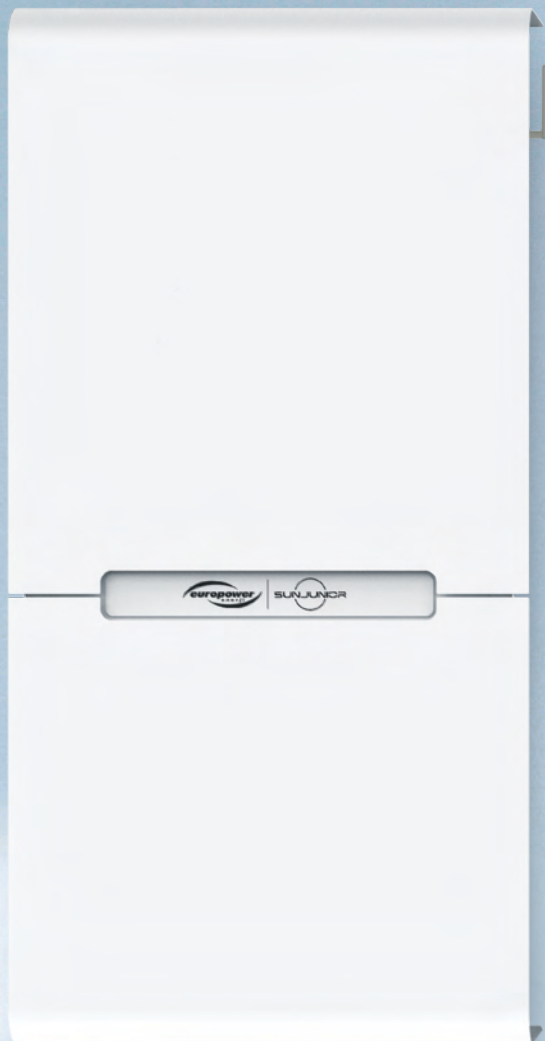




SUNJUNIOR

Indoor - Outdoor Type SunJunior





Outdoor Type (Anti-Vandalism) SunJunior



Installation Examples



EuroSun Junior 20.0kW
(24.0 kW DC loaded)



EuroSun Junior 10.0kW
(12.0 kW DC Loaded)



EuroSun Junior 15.0kW
(18.0 kW DC Loaded)

Hybrid/Triphase Technical Specifications

	SJ3P-5HH	SJ3P-10HH	SJ3P-15HH	SJ3P-20HH
Battery Input Data				
Battery type	Lithium-ion, Lead-acid	Lithium-ion, Lead-acid	Lithium-ion, Lead-acid	Lithium-ion, Lead-acid
No. of battery input	1	1	2	2
Battery voltage range (V)	180-800	180-800	180-800	180-800
Battery voltage range for full load (V)	200-800	200-800	300-800	400-800
Nominal charging / discharging power (W)	5000	10000	15000	20000
Max. charging / discharging current (A)	25	50 (25 / 25)	50 (25 / 25)	50 (25 / 25)
Peak charging / discharging current, duration (A, s)	40, 60	70 (35 / 35), 60	70 (35 / 35), 60	70 (35 / 35), 60
Charging strategy for battery	Self-adaption to BMS	Self-adaption to BMS	Self-adaption to BMS	Self-adaption to BMS
Communication interfaces	CAN (RS485)	CAN (RS485)	CAN (RS485)	CAN (RS485)
PV String Input Data				
Recommended max. PV input power (Wp)	7500 (6000/6000)	15000 (7500/7500)	22500 (11250/11250)	30000 (15000/15000)
Max. DC voltage (V)	1000	1000	1000	1000
Start-up operating voltage (V)	200	200	200	200
MPPT voltage range (V)	180-960	180-960	180-960	180-960
Nominal DC voltage (V)	600	600	600	600
Full power MPPT voltage range (V)	250-850	220-850	350-850	450-850
Max. input current (A)	12.5 / 12.5	25 / 25	25 / 25	25 / 25
Max. short current (A)	15 / 15	30 / 30	30 / 30	30 / 30
No. of MPP trackers	2	2	2	2
No. of strings per MPP tracker	1	2	2	2
AC Output Data (On-grid)				
Nominal AC power (W)	5000	10000	15000	20000
Max. AC power output to utility grid (VA)	5500	11000	16500	22000
Max. AC power from utility grid (VA)	10000	20000	30000	40000
Max. AC current output to utility grid (A)	8	16	24	32
Max. AC current from utility grid (A)	15	29	44	58
Nominal grid voltage	3 / N / PE, 220 / 380 Vac, 230 / 400 Vac			
Grid voltage range	184 Vac...276 Vac			
Nominal grid frequency	50 / 60 Hz			
Grid frequency range	45 Hz...55 Hz / 55 Hz...65 Hz			
Output power factor	ca. 1 (adjustable 0.8 leading to 0.8 lagging)			
Output THDi (@Nominal output)	<3%			
AC Output Data (Back-up)				
Nominal output power (W)	5000	10000	15000	20000
Max. output power (VA)	5500	11000	16500	22000
Peak output power, duration (VA, s)	10000, 60	20000, 60	30000, 60	40000, 60
Rated output current (A)	7.2	14.5	21.7	29
Max. output current (A)	8	16	24	32
Peak output current, duration (A, s)	15, 60	30, 60	32, 60	32, 60
Nominal output voltage	3 / N / PE, 220 / 380 Vac, 230 / 400 Vac			
Nominal output frequency	184 Vac...276 Vac			
Output THDv (@symmetrical load)	50 / 60 Hz			
Switch time	45 Hz...55 Hz / 55 Hz...65 Hz			

	SJ3P-5HH	SJ3P-10HH	SJ3P-15HH	SJ3P-20HH
Efficiency				
MPPT efficiency	99.9%	99.9%	99.9%	99.9%
Euro efficiency	97.5%	97.5%	97.7%	97.7%
Max. efficiency	98.0%	98.0%	98.2%	98.2%
Max. battery change / discharge efficiency	97.6%	97.6%	97.8%	97.8%
Protection				
DC switch	Yes	Yes	Yes	Yes
PV reverse polarity protection	Yes	Yes	Yes	Yes
Output overcurrent protection	Yes	Yes	Yes	Yes
Output overvoltage protection	Yes	Yes	Yes	Yes
Anti-islanding protection	Yes	Yes	Yes	Yes
Residual current detection	Yes	Yes	Yes	Yes
Insulation resistor detection	Yes	Yes	Yes	Yes
Surge protection level	II	II	II	II
Battery reverse protection	Yes	Yes	Yes	Yes
General Data				
Dimension (mm)	571.4*515*264.1	571.4*515*264.1	571.4*515*264.1	571.4*515*264.1
Weight (kg)	33	33	37	37
Inverter topology	Transformerless	Transformerless	Transformerless	Transformerless
Standby self-consumption (W)	< 15	< 15	< 15	< 15
Operating temperature range	-30°C....+60°C	-30°C....+60°C	-30°C....+60°C	-30°C....+60°C
Relative humidity	0....100%	0....100%	0....100%	0....100%
Noise	< 45 dB	< 45 dB	< 45 dB	< 45 dB
Operating altitude	< 4000 m	< 4000 m	< 4000 m	< 4000 m
Cooling	Natural	Natural	Forced airflow	Forced airflow
Protection degree	IP65	IP65	IP65	IP65
Feature				
DC terminal	MC4			
Grid AC terminal	5P Connector			
Back-up AC terminal	5P Connector			
Display	LCD Display			
Monitoring interfaces	RS485 / WiFi / CAN2.0 / Ethernet / Bluetooth; Optional: GPRS			
Parallel operation	Yes			
Standard warranty	Standard: 5 years; Optional: Up to 20 years			
Certifications & Standards				
EMC	EN 61000-6-1, EN61000-6-3			
Safety	IEC 62109-1, IEC 62109-2, NB-T32004 / IEC 62040-1			
Grid	AS / NZS 4777, VDE V 0124-100, V0126-1-1, VDE-AR-N 4105, CEI 0-16 / CEI 0-21, EN 50549, G98 / G99, UTE C15-712-1			

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Mono-Phase Technical Specifications

	SJ1P-3,7HL	SJ1P-5HL
Battery Input Data		
Recommended max. PV input power (Wp)	5400	7500
Max. input voltage (V)	600	600
Start-up voltage (V)	100	100
Rated input voltage (V)	360	360
MPPT operating voltage range (V)	90~550	90~550
Number of MPP trackers	2	2
Max. number of input strings per MPPT	1/1	1/1
Max. input current per MPPT (A)	13/13	13/13
Max. short-circuit current per MPPT (A)	18/18	18/18
AC Output (On-grid)		
Rated output power (W)	3680	5000
Rated output current (A)	16	21,7
Rated grid voltage	L/N/PE, 230V	L/N/PE, 230V
Rated grid frequency (Hz)	50/60	50/60
Max. output apparent power (VA)	3680	5000
Max. output current (A)	16	21,7
THDi	<3%	<3%
Power factor	1 (adjustable +/- 0,8%)	1 (adjustable +/- 0.8%)
Battery Parameters		
Battery type	Lithium-ion, Lead-acid	Lithium-ion, Lead-acid
Battery voltage range (V)	42-58	42-58
Number of battery input channels	1	1
Max. charge/discharge power (W)	4000	5000
Max. charge/discharge current (A)	80	100
BMS communication mode	CAN, RS485	CAN, RS485
AC Output Data (Back-up)		
Peak output power (W)	3680	5000
Rated output current (A)	16	21,7
Rated output voltage	L/N/PE, 230V	L/N/PE, 230V
Rated output frequency (Hz)	50/60	50/60
Max. output apparent power (VA)	3680	5000
Peak output apparent power, time	4800VA, 30s	6000VA, 30s
Max. output current (A)	16	22,7
THDv (@linear load)	<3%	<3%
Switching time	10ms default	10ms default
Protection		
DC switch	Yes	Yes
PV reverse connection protection	Yes	Yes
Output short circuit / overcurrent / overvoltage protection	Yes	Yes
Insulation impedance detection	Yes	Yes
Residual current detection	Yes	Yes
Anti-island protection	Yes	Yes
Surge protection	PV: Type III, AC: Type III	PV: Type III, AC: Type III

	SJ1P-3,7HL	SJ1P-5HL
Efficiency		
Max. MPPT efficiency	99,9%	99,9%
Max. efficiency	97,6%	97,8%
European efficiency	97,2%	97,3%
Max. efficiency of charging/discharging [1]	94,6%	94,6%
General Parameters		
Operating temperature range	-30°C~+60°C (Above 45°C derating)	-30°C~+60°C (Above 45°C derating)
Relative humidity range	5%~95%	5%~95%
Max. operating altitude	4000m	4000m
Standby self-consumption (W) [2]	<10	<10
Topology	High frequency isolation (for battery)	High frequency isolation (for battery)
Installation method	Wall-mounted	Wall-mounted
Degree of protection	IP65	IP65
Dimensions (WxHxD)	482x503x183mm	482x503x183mm
Cooling mode	Natural	Natural
Weight	21.5kg	21.5kg
Communication	RS485 / CAN / WiFi, Optional, Ethernet/4G	RS485 / CAN / WiFi, Optional, Ethernet/4G
Display	LCD & APP+Bluetooth	LCD & APP+Bluetooth
Standard	EN 61000-6-2, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12, IEC 62109-1/2, IEC 62116, IEC 61727, IEC 61683, IEC 60068 (1,2,14,30), VDE-AR-N 4105, VDE V 0126-1-1, AS/NZS 4777, CEI 0-21, G98/G99, TR321, TR322, EN 50438/EN 50549, NRS 097-2-1, UNE 206 007-1	

[1] Battery-AC maximum efficiency of battery charge and discharge [2] Standby loss at rated input voltage * All specifications are subject to change without notice.

HV Battery Technical Specifications

	EUSJR3PHV-10	EUSJR3PHV-15	EUSJR3PHV-20
Performance			
Cell Type	LFP-23Ah (CATL)	LFP-23Ah (CATL)	LFP-23Ah (CATL)
Scalability	2	3	4
Nominal Capacity (kWh)	9,4	14,00	18,80
Operating Voltage Range	172,8-230,4	259,2-345,6	345,6-460,8
Standart Charge / Discharge Current (A)	23/40	23/40	23/40
Max. Charge / Discharge Current (A)	50/50	50/50	50/50
General Specifications			
Dimensions (WxDxH) / Weight	706x408x1576mm / 210kg	706x408x1576mm / 248kg	706x408x1576mm / 282kg
Depth of Discharge (DOD)	95	95	95
Communication Method	RS485 / CAN / ETHERNET (REMOTE MAINTENANCE)		
Protection Class	IP66	IP66	IP66
Operating Ambient Temperature (°C)	(-20~50)	(-20~50)	(-20~50)
Operating Ambient Humidity (%)	5-95 (no condensation)	5-95 (no condensation)	5-95 (no condensation)
Operating Altitude (m)	<2000	<2000	<2000
Life Cycle (25°C, 0.33C/1C @70% SOH)	>=6000	>=6000	>=6000
Compatibility			
Compatible Inverter	SUNJUNIOR 3P HV BOX		
Certification			
Certification	IEC62619, UN38.3, CE-EMC, IEC 60730-1, VDE2510-50, IEC62477-1		

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**Utilizing The Power of The Sun
Wherever & Whenever
You Need It!**



Member of



**Europower Enerji ve
Otomasyon Teknolojileri San. Tic. A.Ş.**
Saray Mah. Atom Cad. No:17, Saray - Kahramankazan / ANKARA
T : +90 (312) 815 48 80
F : +90 (312) 815 48 81
W : www.europowerenerji.com.tr
@ : europower@europowerenerji.com.tr