



Lovsun Love earth Love us
**ENERGY SOLUTION
PROVIDER**

LOVSUN SOLAR ENERGY CO.,LTD

Add: 556 Changjiang Road, Hefei, Anhui, China
Web: www.lovsun-energy.com
Email: info@lovsunpv.com



WhatsApp



WeChat

2025

COMPANY PROFILE

Lovsun Solar Energy Co. Ltd, specializes in providing high-quality solar panels, complete solar energy systems and cutting-edge energy storage solutions. Together with our partners, we adopt advanced and reliable technology to ensure the stability and reliability of our products. Our commitment to reliability, responsibility, and trustworthiness ensures that you receive customized and dependable energy system tailored to your needs. Our hybrid energy storage systems have been recognized by customers from Southeast Asia, Africa and Europe. Lovsun Solar Energy is your reliable partner in renewable energy solutions.



ESS Storage Energy System



KEY STRENGTHS

- Multiple working modes can be flexibly set.
- Support battery management system and comprehensive thermal management.
- The electrical compartment and battery compartment are separated to prevent runaway spread of heat.
- Support real-time online monitoring of system status.
- Support simultaneous access to load, battery, grid, dg, and pv.
- Integrated design, easy to transport and install, flexible deployment.

More Energy	All-in-one Design	Simple O&M	Safe & Reliable
Pack-level Optimization String-level Optimization	Ac/dc All-in-one Design Reducing Initial Investment	No Periodic Balancing No Experts Site Visit	Modular Design High Availability

System Technical Specifications

Item	20C2H500K-NA	20C2H500K-EX
DC Data		
Battery chemistry	Lithium Iron Phosphate (LFP)	
Cell life cycle	80% Retention with 5,000 Cycles @ 1C 25°C	
Cell spec	3.2V/280Ah	
String configuration	1P224S	
Number of strings	6	
Rated energy capacity	1.2MWh	
DC rated energy capacity	1,204,224kWh	
Rated voltage	716.8V	
Voltage range	602V~784V	
BMS communication interface	RS485, Ethernet	
BMS communication protocol	Modbus RTU, Modbus TCP	
AC Data		
Rated AC power	500kW	
Maximum AC power	550kW	
Rated voltage	480V	400V
Grid voltage range	432~528V(Configurable)	342~418V(Configurable)
AC rate of current	601.4A	721.7A
Output THDi	< 3%	
AC PF	0.1~1 leading or lagging (Controllable)	
AC output	3-Phase 4-Wire+PE	3-Phase+PE
General Data		
Dimension w/o clearances (L*W*H)	6,058x2,438x2,591 mm	
Weight of the whole system	22t	20.7t
Degree of protection	IP54	
Operating temperature range	-20~40°C	
Relative humidity	0~95% (non-condensing)	
Max working altitude	3000m/10000feet (> 2000m/6500feet derating)	
Cooling concept of DC hatch	HVAC	
Fire fighting system	NOVEC1230/FM-200	
Communication interfaces	RS485, Ethernet, GPRS	
Certificates	UL9540, IEC62933, UN3536, etc.	

OUTDOOR CABINET ENERGY STORAGE SYSTEM



Door magnetic sensor

Emergency stop switch

LCD control screen

PCS power module

Lightning protection module

Smoke sensor

Battery pack

Cooling + heating air conditioning

Aerosol fire protection

Water immersion sensor

Note: Different projects have different battery pack quantities and specifications, and the structures may be slightly different.

SOLAR ENERGY SYSTEM

WHOLE SOLUTION PROVIDER



-  Smooth New Energy Output
-  Voltage, Frequency Support,
Frequency Modulation
-  Peak Valley Arbitrage
-  Demand Management
-  Construction of Microgrid



BATTERY ENERGY STORAGE SYSTEM



1-2MW

2 - 4 * 500kW PCS or inverter



40' 1MW/2MWh



100-500kW

100-500kW PCS



500kW/1MWh



50kW
100kW

500kW STS 250kW STS 50kW DC/DC

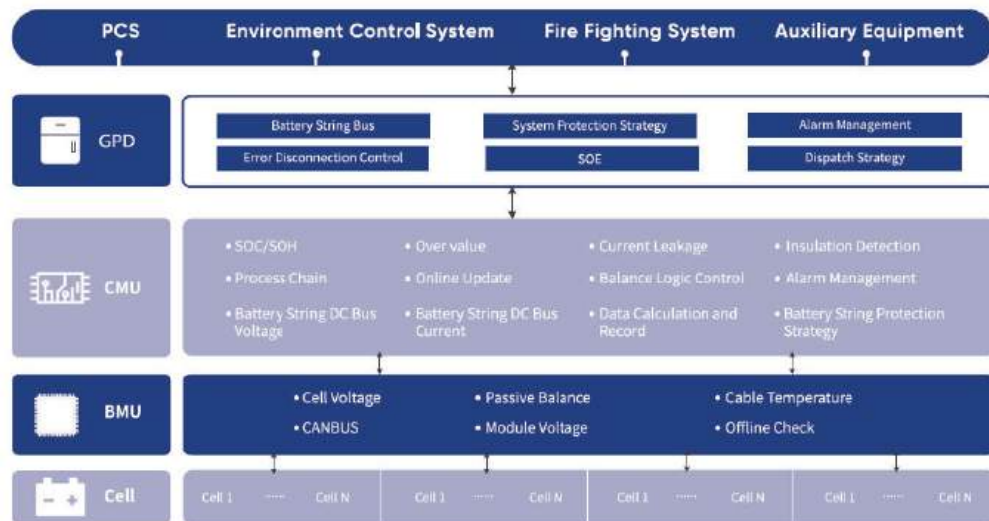


100kW/215kWh 50kW/100kWh





EMS (Energy management system)



BMU		CMU	
Cell Voltage Measurement Accuracy	±5 mV	Battery String Voltage Measurement Range	100-1,000V
Cell Voltage Monitoring Interval	≤200ms	Battery String Voltage Measurement Accuracy	±1%
Cell Temperature Measurement Accuracy	±2°C	Battery String Voltage Monitoring Interval	≤100ms
Cell Temperature Measurement Interval	≤3s	Battery String Current Measurement Range	±300A
Cell Current Balance	Passive Balance, 150mA MAX	Battery String Current Measurement Accuracy	≤1%
Cell Voltage Measurement Range	1-5V	Battery String Current Monitoring Interval	≤50ms
Over-current Protection	250A/1s	SOC Calculation Accuracy	≤8%
Short-Circuit Protection	500A/10ms	Input Insulation Resistance	≥10MΩ, 1,000VDC



APPLICATIONS

- » Microgrid system energy control
- » C&I peak cutting and valley filling energy control
- » Frequency modulation peak modulation energy control
- » PV charging station energy control

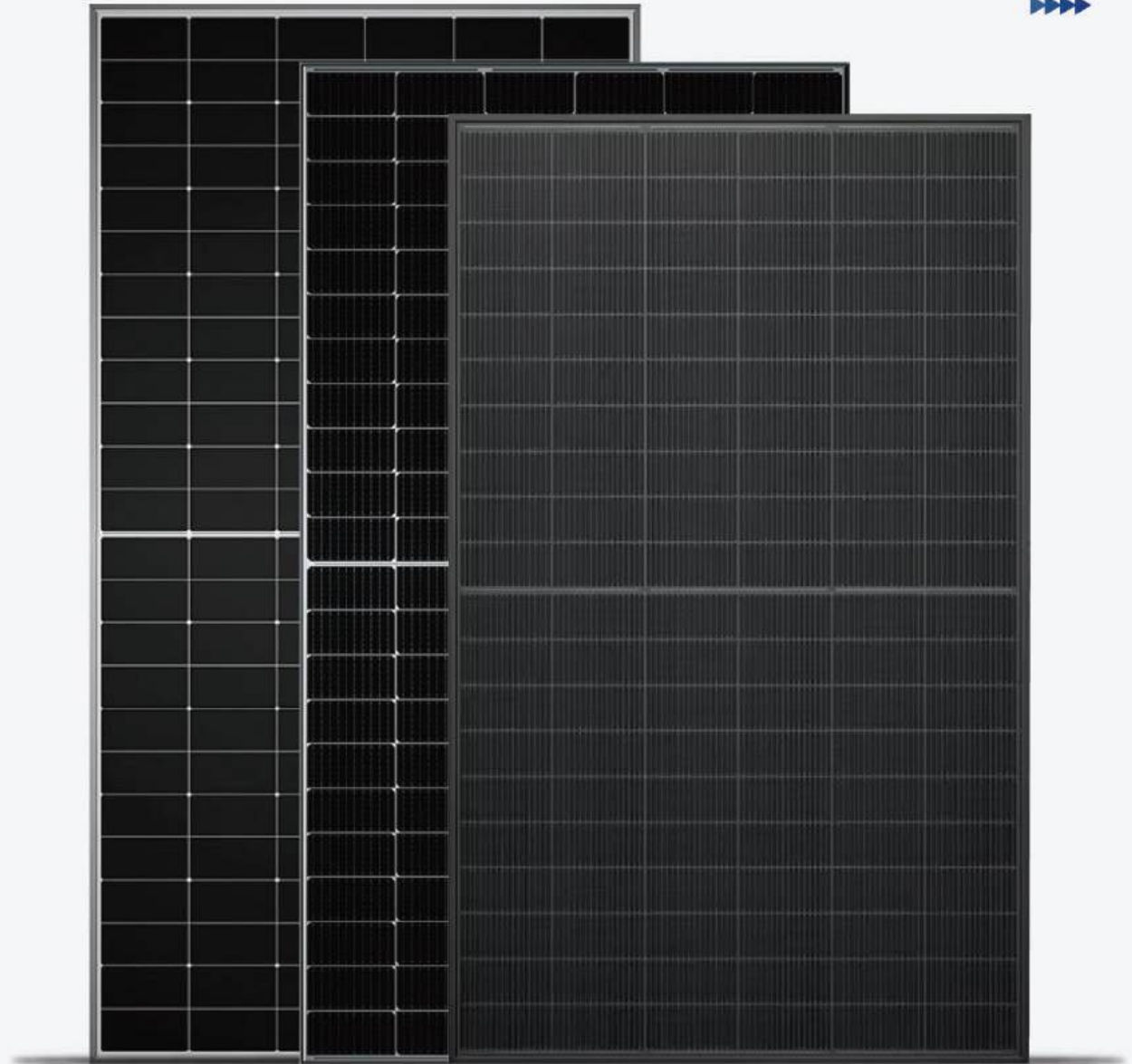
166/182/210MM_{size}

HOT PROOUCT

DIVERSIFIED SOLAR MODULES MEET DIFFERENT NEEDS

-  Partial Shading Optimisation
-  Better Temperature Coefficient
-  High Temperature Restriction
-  Micro-crack Resistance

Comprehensive Product And System Certificates



CHARM 10/11/12

DEVELOPMENT HISTORY



2014

Founded EPC Contrator of Solar Energy System

2016

Updated Production Line
Annual Capacity 200mw

2018

Self Developed Optimal
Solar System One Stop Solution

2022

Global Cumulative Solar Energy
System Shipment Reached To 5GW

2025

Solar Enery With Bess System
Achieved Mass Production

ONE-STOP SOLUTION TURNKEY PROJECTS SUPPLIER



02
**Design & Confirm
The Configuration**
Confirm System Configuration
And Grid Application Paperwork



04
**Installation &
Debugging**
Lovsun Europe Team Will Do The
Installation And Commissioning Works



01
**Project Survey
& Research**
Preliminary Research And
System Design



03
**Arrange Production
& Shipping**
Arrange Production And
Delivery To Project Site



05
Enjoy Payback
Save Your Electricity Bill By Peak
Shaving And Valley Filling

During The Use Of The Product, After-sales Team 24/7 Ready To Help Solve Problems.
Warranty Work Can Be Performed Locally In Europe With In 48 Hours.

PV MODULE PRODUCTION LINE



BATTERY PRODUCTION LINE



BATTERY PRODUCTION LINE



PROJECT CASES

COMMERCIAL



Location: South Africa
Capacity: 60kw /100kWh



Location: Suriname
Capacity:250kW/1MWh



Location: South Africa Capacity:750kW/1.5MWh



Location: South Africa
Capacity:1MW/1.3MWh



Location: Croatia
Capacity:120kW/200kWh



Location: Poland
Capacity:250kW/500kWh

STORAGE SOLUTION



LOVSUN SOLAR ENERGY CO.,LTD

Add: 556 Changjiang Road, Hefei, Anhui, China

Web: www.lovsun-energy.com

Email: info@lovsunpv.com



WhatsApp



WeChat

RESIDENTIAL SOLAR POWER SOLUTION

Lovsun Love earth Love us

About Lovsun Solar

Lovsun Solar Energy Co., Ltd is a professional manufacturer of solar energy systems and a distributor of top-quality related products, such as solar panels, inverters, solar batteries and so on. We adopt the latest technology and equipment to ensure our solar systems to be high-efficient, reliable, and long-lasting.

We pursue innovation, reliability, and responsibility, and we strive to uphold these values in all aspects of our business. Adhering to the core culture of "Thanksgiving", we believe that only on the basis of trust, respect, and gratitude can we build strong and longterm relationships with our customers.



1 HYBRID SOLAR ENERGY SYSTEM

Combining the advantages of both grid-connected and off-grid solutions, this system enables to export the extra power to the grid after the battery fully charged. It ensures energy security, backup during outages, and maximum flexibility for cost savings.

2 OFF GRID SOLAR POWER SYSTEM

Built for areas without stable grid access, this system stores solar energy in batteries to ensure continuous power supply. It provides full independence from the grid, making it ideal for remote sites or backup needs.

3 ON GRID SOLAR POWER SYSTEM

Designed to connect with the public grid, this system reduces electricity costs by supplying solar energy directly. Excess electricity is fed into the grid, improving efficiency and saving costs, but it does not provide backup power during outages.

4 OTHERS

HYBRID SOLAR SYSTEM

3.6-80kW



Solar Panel



LTS182-590-610W TOPCON

Higher Output Power Low Light Features
Harsh Environment

Number of Cells	144 Cells (7x18)
Dimensions of Module L*W*H(mm)	2278x1134x30mm
Weight (kg)	22.0 kg
Front Side Glass	High transparency solar glass 2.0mm
Back Side Glass	High transparency solar glass 2.0mm
Frame	Black Anodized Aluminium Alloy
Junction Box	IP 68 rated
Number of diodes	3
Connector	MCA



LRS182-54H495-515W

Higher Output Power Low Light Features
Harsh Environment

Cell Orientation	108 (6x18)
Junction Box	IP68, three diodes
Output Cable	4mm ² , 300mm in length, length can be customized
Glass	Single glass 3.2mm coated tempered glass
Frame	Anodized aluminium alloy frame
Weight	20.5kg±3%
Dimension	1722x1134x30mm
Packaging	36 pcs per pallet 636 pcs per 40'GP



LRS182-60HB440~460W

Higher Output Power Low Light Features
Harsh Environment

Cell Orientation	120 (6x20)
Junction Box	IP68, three diodes
Output Cable	4mm ² , 350mm in length, length can be customized
Glass	Single glass 3.2mm coated tempered glass
Frame	Anodized aluminium alloy frame
Weight	20.5kg±3%
Dimension	1910x1134x35mm
Packaging	31 pcs per pallet 744 pcs per 40'GP



Low Voltage Single Phase Hybrid Inverters

3.6-18kW

- AC couple to retrofit existing solar system.
- Max. charging/discharging current of 140A.
- 6 time periods for battery charging/discharging.
- Support storing energy from diesel generator.



High Voltage Three Phase Hybrid Inverters

15-80kW

- 100% unbalanced output, each phase;Max.output up to 50% rated power.
- AC couple to retrofit existing solar system.
- Max. charging/discharging current of 240A.
- Support storing energy from diesel generator.



Low Voltage Single Phase Hybrid Inverters

3.6-6kW

- Supports DC couple and AC couple to upgrade existing photovoltaic plants into energy storage systems.
- Slash Your Energy Bills Smart Peak Shaving and Optimal Charging Schedules.
- Support 10ms and off-grid switching time and 1.5 x@10s maximum switching power.



High Voltage Three Phase Hybrid Inverters

5-12kW

- 150% unbalanced output, each phase, Max. output up to 50% rated power.
- Slash Your Energy Bills; Smart Peak Shaving and Optimal Charging Schedules.
- Support 10ms and off-grid switching time and 2x @10s maximum switching power.



Low Voltage Battery

5-15kWh

- convenient to PLUG IN/OUT.
- 6000 cycles life.
- Precise Battery Management Technology.
- High-density LiFePO4 battery, safer to use.
- Possess industry-leading BMs technology.
- IP65 High level protection.



High Voltage Battery

48-225kWh

- High Safety Lifepo4 Battery.
- (0.5C/0.5C-80% DOD)>6000 times.
- UN38.3/MSDS/ROHS.
- Support 16 units in Series.



Low Voltage Battery

15/16kWh

- Compatible with most hybrid/battery inverter in self consumption, back-up and off-grid application.
- More than 6000 cycles, self developed BMS/Cell/Pack to ensure best quality.
- IP20 level protection.



High Voltage Battery

20-61kWh

- High Safety Lifepo4 Battery.
- (1C/1C-80% DOD)>6000 times.
- UN38.3/MSDS/ROHS.
- Support 16 units in Series.

ON GRID SOLAR SYSTEM

3-350kW



Solar Panel



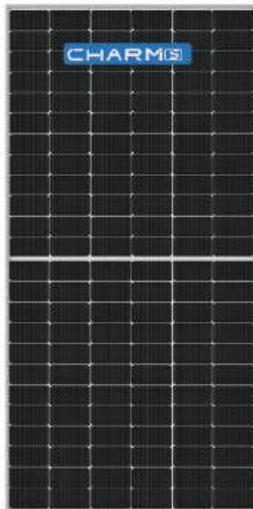
Solar Inverter



PV Mounting System



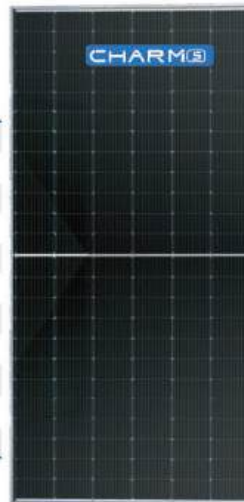
Solar Panel



LRS182-72H 535~560W

Higher Output Power Low Light Features
Harsh Environment

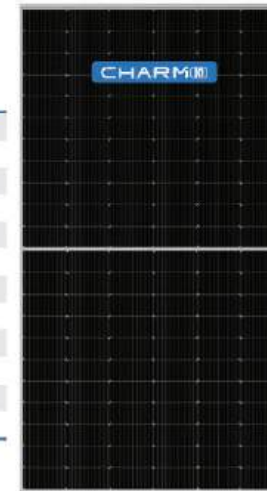
Cell Orientation	144 (6x24)
Junction Box	IP68, three diodes
Output Cable	4mm ² , 300mm in length, length can be customized
Glass	Single glass 3.2mm coated tempered glass
Frame	Anodized aluminum alloy frame
Weight	28kg±3%
Dimension	2278x1134x30mm
Packaging	36pcs per pallet 720pcs per 40'ft Container



LRS182-72HB 575~595W

Higher Output Power Low Light Features
Harsh Environment

Cell Orientation	156 (6x26)
Junction Box	IP68, three diodes
Output Cable	4mm ² , 300mm in length, length can be customized
Glass	Single glass 3.2mm coated tempered glass
Frame	Anodized aluminum alloy frame
Weight	32.1kg±3%
Dimension	2278x1134x30mm
Packaging	36pcs per pallet 720pcs per 40'ft Container



LRS210-66H 695~720W

Higher Output Power Low Light Features
Harsh Environment

Cell Orientation	132 (6x22)
Junction Box	IP68, three diodes
Output Cable	4mm ² , 300mm in length, length can be customized
Glass	Single glass 3.2mm coated tempered glass
Frame	Anodized aluminum alloy frame
Weight	33.6kg±3%
Dimension	2384x1303x35mm
Packaging	31pcs per pallet 558pcs per 40'ft



Three Phase Inverter MOD 10KTL3-X

3-15kW

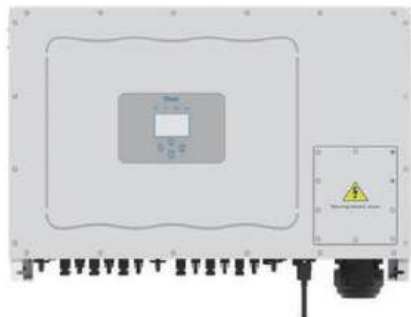
- Max. efficiency 98.6%.
- OLED and touch button.
- Type II SPD on DC and AC side.



Three Phase Inverter GT Series

100-125kW

- String level monitoring.
- Type II SPD on AC & DC sides.
- 8/10 MPPTS, max. Efficiency 99.0%.
- 21A DC input current perstring.



String inverter SUN-GO1P3-EU-AM8

120-136kW

- 8 MPP trackers, Max. efficiency up to 98.8%.
- Zero export application, VSG application.
- Wide output voltage range.



Three Phase Inverter Blue Wave Series

350 kW

- Three Phase / 1500 Vdc / 350 kW.
- String On Grid Inverter.
- Max. Efficiency up to 99%.

OFF GRID SOLAR SYSTEM

3-30 kW

- Solar Panel
- Solar Inverter
- Battery Bank
- PV Mounting System

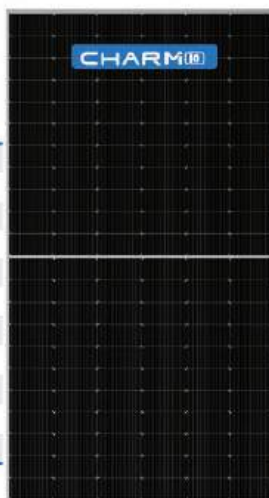


Solar Panel



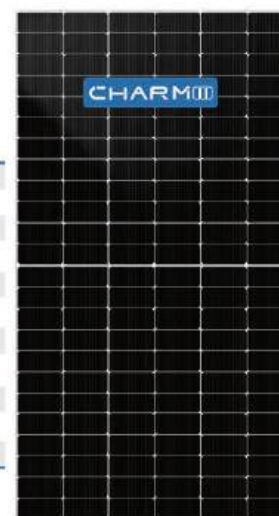
LTS182-445-465W TOPCON
Higher Output Power Low Light Features
Harsh Environment

Solar Cells	n-type Mono
No. of Cells	144(6x24)
Dimensions	2270 x 1134 x 35mm
Weight	27.5kgs
Front Glass	3.2mm coated tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP66 rated (3 by pass diodes) 4.0mm ² /300mm(+) / 300mm(-)
Output Cables	Length can be customized
Connectors	MC4 compatible
Mechanical load test	5400Pa



LRS210-66H 590-610W
Higher Output Power Low Light Features
Harsh Environment

Cell Orientation	132 (6x22)
Junction Box	IP66, three diodes
Output Cable	4mm ² , 300mm in length, length can be customized
Glass	Single glass 3.2mm coated tempered glass
Frame	Anodized aluminium alloy frame
Weight	28.2kgs±3%
Dimension	2380x1300x35mm
Packaging	31 pcs per pallet 558pcs per 40'GP



LTB182-705-725W N-TYPE
Higher Output Power Low Light Features
Harsh Environment

Cell Type	182 N type Mono-crystalline
No. of cells	132(6x72)
Dimensions	2384x1303x35mm
Weight	30.7 kg
Front Glass	2.0mm, Anti-Reflection Coating
Back Glass	2.0mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP66 Rated
Output Cables	TUV 1x4.0mm
Connector	MC4 compatible or MC compatible



Low frequency Off Grid Inverter

0.8-10kW

- Pure sine wave output
- Self design PcB board and cooling system
- MPPT efficiency max 98%
- High Efficiency Design & "Power Saving Mode" to Conserve Energy.



High frequency Off Grid Inverter

4-11kW

- Lithium Battery Auto-restart Function, More Convenient for Lithium Battery Charging.
- Convenient installation And Transportation.
- Support Working without Battery; Reduce solar system Cost.



Wall mounted All-In-One ESS

3kW/5.12kWh

- LiFePO4 Battery + Inverter.
- Integrated PV and AC charging.
- High integration and easy installation.
- IP54 Waterproof.



High frequency Off Grid Inverter

1.3-12.3kW

- Two-way energy storage design.
- Support working without battery.
- Configurable working mode.



OUTDOOR ALL-IN-ONE ESS CABINET

20-50KW/112KWH

- Support high discharge power. IP54, natural cooling, wide temperature range -20°C to 55°C.
- Use environmental protection materials, the whole module nontoxic, pollution-free.



OUTDOOR ALL-IN-ONE ESS CABINET

125kW/261kWh

- Coordinated control of Photovoltaic, Energy Storage and Charging.
- Fully liquid cooling design for battery and PCS, enabling operation without derating at 50°C.

PV CABLES

- PV Cables in 4mm² and 6mm² with TUV Certificate.



DC SWITCH

- BYH-32 DC Isolator (IP66) – Safe, reliable DC isolation for solar energy systems.

MC4 CONNECTOR

- MC4 PV Connectors 1500V, with TUV Certificate.
- Rated current: 30A
- Rated voltage: 1500VDC



Tile Roof Hook Solar PV Mounting System



Tile Hook 1

Technical Parameters

System Name	MRac Tile Hook	Design Standard	Euro Code/EN1991/1993/1994, BS 6399, ASCE 7-10
Installation Site	Pitched Roof		International Building Code IBC 2009,
Foundation	Tile, Flat Tile, Slate Tile, Asphalt Shingle Tile		California Building Code CBC 2010
Tilt Angle	5-45°	Hook Material	AL6005-T5(Anodized)
Wind Load	≤60m/s	Fastener	SUS304&Zinc-Nickel Alloy Electroplated Steel
Snow Load	≤1.6KN/m²	Small Components	AL6005-T5(Anodized)
Applicable Solar Module	Framed or Frameless	Color	Silver or Customized
Panel Layout	Portrait or Landscape	Warranty	10 Years

L Feet and Hanger Bolt Kit Metal Roof PV Mounting System



Technical Parameters

System Name	MRac L Feet Kit & Hanger Bolt Kit	Design Standard	Euro Code/EN1991/1993/1994, BS 6399, ASCE 7-10
Installation Site	Pitched Roof		International Building Code IBC 2009,
Foundation	Trapezoidal Roof		California Building Code CBC 2010
Tilt Angle	0°	Material	AL6005-T5(Anodized)
Wind Load	≤60m/s	Fastener	SUS304 & Zinc-Nickel Alloy Electroplated Steel
Snow Load	≤1.6KN/m²	Small Components	AL6005-T5(Anodized)
Applicable Solar Module	Framed or Frameless	Color	Silver or Customized
Panel Layout	Portrait or Landscape	Warranty	10-Year Warranty

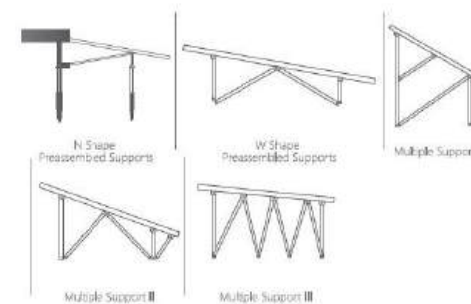
Aluminum Ground Mounting System



Technical Parameters

System Name	Ground	Design Standard	Euro Code/EN1991/1993/1994, BS 6399, ASCE 7-10
Installation Site	Open Field		International Building Code IBC 2009,
Installation Base	Metal Railings, Wall, Concrete Roof		California Building Code CBC 2010
Mounting Angle	10°-30°	Material	Steel & AL6005-T5
Wind Load	≤30m/s	Fastener	SUS304
Snow Load	≤1.0KN/m²	Small Components	AL6005-T5
Applicable Solar Module	Framed	Color	Natural Silver or Customized
Panel Layout	Horizontal	Warranty	10-Year Warranty

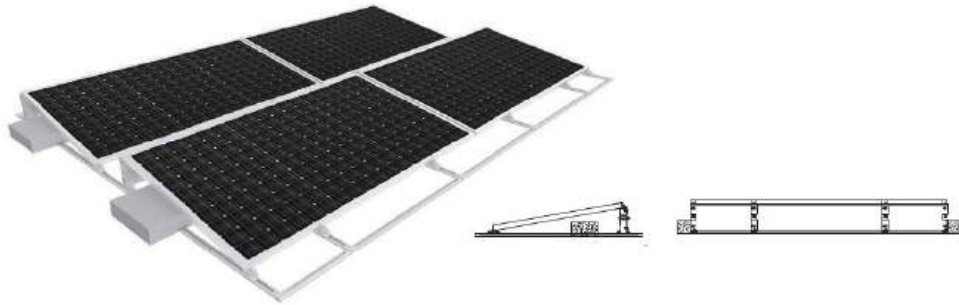
Balcony Solar Mounting System



Technical Parameters

Installation Site	Ground	Design Standard	Euro Code/EN1991/1993/1994, BS 6399, ASCE 7-10
Foundation	Concrete Base or Ground Screw		International Building Code IBC 2009,
Tilt Angle	0-60°		California Building Code CBC 2010
Wind Load	≤60m/s	Material	AL6005-T5(Anodized)
Snow Load	≤1.6KN/m²	Fastener	SUS304 & Zinc-Nickel Alloy Electroplated Steel
Ground Clearance	≤500-2000mm	Small Components	AL6005-T5(Anodized)
Applicable Solar Module	Framed or Frameless	Color	Silver or Customized
Panel Layout	Portrait or Landscape	Warranty	10-Year Warranty

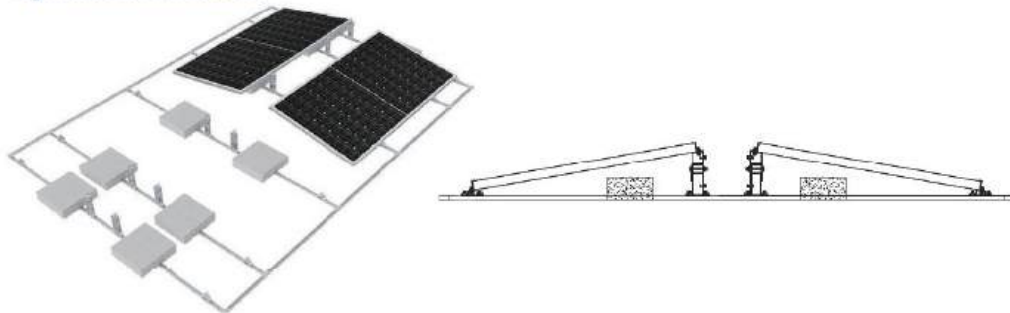
Roof Solar PV Mounting System RM-Ad



Technical Parameters

System Name	MRac Roof Solar PV Mounting System RM-Ad	Design Standard	Euro Code/EN1991/1993/1994, BS 6399, ASCE 7-10
Installation Site	Flat Concrete roof, Flat ground, Membrane roof		International Building Code IBC 2009,
Roof Type	Concrete Ballast		California Building Code CBC 2010
Tilt Angle	0-30°	Material	Q235B(Hot-Dip Galvanized) AL6005-T5(Anodized)
Wind Load	≤44m/s	Fastener	SUS304, Hot Dip Galvanized, Zinc-Nickel Alloy Electroplated Steel
Snow Load	≤1.6KN/m ²	Small Components	AL6005-T5(Anodized)
Applicable Solar Module	Framed/Frameless, Any width panel	Color	Silver or Customized
Panel Layout	Landscape	Warranty	10-Year Warranty

Roof Solar PV Mounting System RM-Ad Symmetric Ballast



Technical Parameters

System Name	MRac Roof Solar PV Mounting System RM-Ad	Design Standard	Euro Code/EN1991/1993/1994, BS 6399, ASCE 7-10
Installation Site	Flat Concrete roof, Flat ground, Membrane roof		International Building Code IBC 2009,
Roof Type	Concrete Ballast		California Building Code CBC 2010
Tilt Angle	0-30°	Material	Q235B(Hot-Dip Galvanized) AL6005-T5(Anodized)
Wind Load	≤44m/s	Fastener	SUS304, Hot Dip Galvanized, Zinc-Nickel Alloy Electroplated Steel
Snow Load	≤1.6KN/m ²	Small Components	AL6005-T5(Anodized)
Applicable Solar Module	Framed/Frameless, Any width panel	Color	Silver or Customized



USA	UK	South Africa	Spain
Italy	Poland	Australia	Lebanon
		

Our vision

Over the past years, Lovsun has helped thousands of companies to produce and consume green energy independently according to their individual need, and save millions of tonnes of CO2 emission. This motivates us to continually strive to create and innovate on the universal carbon neutralization goal, and build a greener future energized by renewable energy technology.





DR. EISSING & SOHN

HANDEL & SPEDITION KG

 +49 160 636 2588

 Erdbeerfeld 20, 26899 Rhede (EMS)

 www.eissing-sohn.de

 info@eissing-sohn.de

Für Anfragen zu Angeboten, Preisen und allen weiteren Anliegen:

 simon_uwe@eissing-sohn.de

