

Q2, 2022

# SOLAR ENERGY PORTFOLIO



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Green Horizon was established in 2011 in the United Arab Emirates to create a sustainable world while increasing profitability for all residential, commercial, and industrial customers. It is a b2b Renewable Energy Consulting & Engineering firm and part of the larger diversified PetroMark International FZE's global network.

With over 10 years of experience in solar international marketing, distribution, and procurement, Green Horizon provides its customers with renewable energy consulting, engineering, O&M services and turnkey solutions with the aim of producing sustainable electricity using clean energy, reducing clients' monthly energy costs, and having a positive impact on carbon emissions by reducing environmental carbon footprint. We specialize in offering solar energy supplies and solutions and our recommendations are based on our experts' deep understanding of the renewable energy market and our individual customer requirements.

We've dedicated to creating strong partnerships with many of the highest rated brands in the Solar Industry such as KACO (Siemens), VoltronicPower, Canadian Solar, LONGI Solar, Jetion Solar, and etc. to offer a wide range of high quality PV Module, Inverter, Battery Storage, and other Protection Accessories with a manufacturer warranty to our clients worldwide. For our customer convenience and satisfaction, we also offer comprehensive value-added international logistics services.

With a special commitment to solar industry specific requirements, our integrated end-to-end supply chain solutions, products availability and warranty, and easy methods of payment for b2b transactions tailored to our customers' supply chain management demands. The range of supply chain solutions depends on type of operations and it can vary from simple transport to complex operations.

We assist our customers find their best and most efficient path towards 100% sustainable electricity.



## OUR VISION & MISSION

**Vision:** To provide innovative, cost effective and affordable solar energy technologies, solutions and supplies worldwide with the aim of empowering a billion lives using clean energy and creating a sustainable world as well as reducing environmental carbon footprint.

**Mission:** Making energy together: our wide range of products and services delivers tailored solutions for our customers. Our competence in consulting services and systems technology is compelling. Through our commitment, we create value for our customers, partners, employees and shareholders.

## OUR VALUES

- ▶ Commitment
- ▶ Integrity
- ▶ Accountability
- ▶ Customer Satisfaction
- ▶ Quality
- ▶ Loyalty
- ▶ Learning







## AFTER SALES SERVICES

We offer the following After Sales Support:

- ▲ End User Training
- ▲ Warranty Services  
(based on our suppliers brand warranty terms and conditions)
- ▲ Online Support  
(for our supplies related queries)
- ▲ Return / Replacement  
(for a Limited Period of Time with respect to our company return /replacement policy)

## SHIPPING AND LOGISTICS

Our international one-stop-shop, located in the UAE, provides end to end solutions in the field of shipping & logistics. We offer Best in Class Logistics Services through our team of professionals allowing customers to have multiple options & benefits.

Our Shipping Solutions provided to customers based on their individual and specific logistics needs. We believe that cost and customer service are the two most important factors in all business today, and hence try our best to provide the required services at a reasonable price and also achieve the highest level of customer service.

For these purposes, a careful selection has been made in selecting our personal and strategic partners worldwide. Our team has an in-depth knowledge of different aspects of the field and provides the best and high levels of customer service.

Our experience, flexibility, adaptability and proven performance in handling your shipping quickly and easily around the world shall leave no stone unturned to become "Your reliable partner in business".





## FAST & RELIABLE SHIPPING AND LOGISTICS SERVICES



### Air Freight

Air Freight import /export management



### Ocean Freight

Ocean Freight import/export Management



### Road Freight

Road Freight import/export Management



### Warehousing

Temporary/Long-term Warehousing Facilities



### Freight Forwarding

International Freight Forwarding Operations



### Supply Chain

Supply Chain Management Operations



### Cross Trading

International Cross Trade Shipment Services

## INTERNATIONAL RENEWABLE ENERGY MARKETING AND DISTRIBUTION

▲ Middle East

▲ North Africa

▲ East Africa

▲ Central Asia





## WHY US!

Over 20 years of experience in solar international marketing, distribution, and procurement

Specialize in solar consulting, engineering, O&M and turnkey solutions

Focus on quality systems

Our recommendations tailored to our individual customer requirements

High-quality staffs and enhancing brand value

Create value for our customers, partners, employees and shareholders

Offer manufacturer warranty

Partner with the solar industry leaders to distribute the high quality products

Provide international Shipping & Logistics services

Effective methods for consistent and continual growth

Offer optimum power production to increase your savings

## INTERNATIONAL RENEWABLE ENERGY MARKETING AND DISTRIBUTION

- ▲ Solar PV Modules, Inverters, Batteries, and Protection Accessories
- ▲ Solar Consulting, Engineering, Procurement, Project Management, and O&M
- ▲ On Grid and Off Grid Systems
- ▲ Residential, Commercial, and Industrial
- ▲ Shipping & Logistics Services



## OUR STRATEGIC PARTNERS



It was founded in 2001 in Canada to produce electricity from the sun with the purpose of encouraging sustainable development and creating a cleaner and healthier earth for future generations. It has delivered over 67 GW with the best-possible value to thousands of customers in more than 160 countries. Canadian solar products achieve the highest production values and returns on investment due to the combination of products technology, quality and market cost structures. [1]

Canadian Solar is:  
one of the largest solar power plant developers globally [1]  
one of the largest solar photovoltaic products providers [1]

### AWARDS [1]

- ▲ Top Bankable Manufacturer Rated by Bloomberg New Energy Finance (BNEF) in 2021
- ▲ Tier 1 Solar CompNo. 1 Module Supplier for Quality and Performance/Price Ratio in IHS Module Customer Insight Survey in 2016
- ▲ The Best PV Module Manufacturer Award in Brazil by Smart Energy 2016
- ▲ No. 1 Silicon module solar plant developer by Greentech Media Research in 2017
- ▲ any by Bloomberg New Energy 2017-2020

## LONGI

It was established in 2000 with a bold mission: "Utilizing Solar Energy, Building a Green World" and a brand image of "Robust, Reliable, and Technology Leading" to develop solutions for large scale power plants while focusing on its innovation development. LONGI is committed to achieve the most valuable solar technology in the world. [2]

It supplies reliable and high quality and high efficiency solar modules to 85 countries and regions in 6 continents to bring electricity to millions of people around the world. It uses "Green Power + Green Hydrogen" solutions for the purpose of a low carbon future. [2]

LONGI Technology[2]:

- ▲ PERC Cells
- ▲ N-type TOPCon Cells
- ▲ Bifacial PV
- ▲ Half-cut Module Technology
- ▲ Mono Silicon Crystalline Technology
- ▲ Life-cycle Standards



Jetion Solar was founded in 2004 as a world prominent PV manufacturer. It focusses on research, growth, manufacture and sale of high efficiency solar modules. Innovation, quality, and manufacturing in terms of production capacity are Jetion important accomplishments that outpaced most of its main competitors. Jetion is one of the important PV modules producers that supply more than 10 GW products in the photovoltaic field in 58 countries. [3]

Jetion stays at the forefront of technology in the solar photovoltaic industry by focusing on product innovation and development with respect to continuously invest in upgrading cell technologies, laboratory equipment, and employing potential R&D talents. Jetion Solar high quality products are designed with commitment to support renewable energies customers all around the world. [3]





KACO was established in 1914 and in the 1950s it was the world's largest producer of electromechanical choppers. It produced the first thyristor inverter in 1953. KACO new energy has been a subsidiary of Siemens AG since 2019 and has over 20 years of inverter history in photovoltaic field. [4]

KACO new energy is one of the most significant inverter producers for photovoltaic (PV) plants and energy storage systems with 280 employees among the best known in the inverter industry. KACO new energy has delivered a capacity of more than 13 gigawatts cumulative power by supplying 800,000 inverters in the photovoltaic field worldwide. [4]

The product line-up includes accessories for grid management, hybrid and battery inverters for energy storage, and operations and maintenance services for the full power spectrum from small to large PV systems. KACO hybrid inverters, flexible battery inverters, and reactive power inverter provide PV energy storage for homes or small business, medium to large scale commercial and industrial requirements. [4]

KACO inverters are designed with quality and commitment to support renewable energies with respect to efficient energy management all around the world.



Voltronic Power was founded in May, 2008. It is one of the significant UPS, PV Inverter, and Inverter producers with 4000 employees in China, Vietnam, and Taiwan. [8]

Core Competency [8]:

- ▲ Manufacturing
- ▲ Experience
- ▲ ODM Business Mode
- ▲ Client Relationships
- ▲ R&D



Solis was established in 2005. It is one of the most significant and experienced solar inverter producers in the world. Solis uses innovative string technology for its solar inverter product line to deliver first-class inverters to residential, commercial, and utility-scale customers. [9]

Combination of Solis manufacturing capabilities, world class R&D, and global supply chain optimizes its inverters for different regional market. [9]

Solis inverters are designed to support renewable energy and speed up the world's journey towards a more sustainable future. [9]





## PYLONTECH

It was founded in 2009 and deployed the solution for BESS in 2013. Pylontech is a professional Energy storage system company that uses vertical integration of all required technologies including cathode material, lithium cell, BMS, and system integration to produce Energy Storage Systems. Its ESS products can be widely used in the grid level energy storage, higher capacity PV energy storage, data center power backup, and all other kinds of industrial applications with different capacities. [5]

It has delivered over 3.0 GWh to thousands of customers in 80 countries by the end of 2019. It has a significant contribution in moving forward to change the way of generating, transferring and using the electricity. Pylontech has been pioneered in the global ESS market since 2013 by its ESS technologies and products commitment. [5]



Ritar International Group is a specialized battery company founded in 2002 in China. Ritar is one of the most significant battery producers with two battery manufacturing bases in Hengyang (China) and Vietnam and over 6,000 employees, listed in NASDAQ. It has been the new energy industry leading company in China with products list of battery, switching power, cover glass for mobile phones, etc. [6]

It has a research center with the world's most advanced production equipment and testing methods, over 50 R&D engineers, and over 40 years' experience to develop advanced technologies. [6]

Ritar offers different type of batteries for different industrial applications such as Energy Storage Systems, UPS, Solar Systems, Data Centers, Telecom, Rail Transit, Motive Vehicles, etc. Its battery products line-up include full range of Lithium batteries and OPzV solid state lead batteries, Deep Cycle, Lead Carbon, AGM, GEL, OPzS, and Traction (DIN/BS) Lead Acid batteries. Ritar vision is "to build a world's top enterprise of the first-class scale and brand, with the first-class team and the international competitiveness." [6]





Suntree Electric Group Co. Ltd. is established in 2007. It is one of the significant solar energy solutions provider and manufacturer, with 300 employees among the best known in the photovoltaic industry. [7]

It has 24 offices in swede and a wide global network in more than 110 countries and regions. Suntree products are designed with quality and commitment to support renewable energy customers all around the world. It has achieved 20%+ business growth by supplying more than 3000 customers worldwide. [7] The product line-up includes Photovoltaic System Protection, Industry Control & Protection, Enclosures and Cable Glands, and Buildings Circuit Protection accessories. Suntree won more than 40 patents, including 10 invention patents after its first 10 years of experience and it had been rated as a technology research center and national high-tech enterprise. It also designated as a supplier of the State Grid. [7]

## TECHNOLOGIES & PRODUCTS

### Solar PV Modules

- ▲ Monocrystalline Solar Panels
- ▲ Polycrystalline Solar Panels

### Inverters

- ▲ Hybrid and Battery Inverters
- ▲ String Inverters

### Protection Accessories

- ▲ DC/AC Surge Arresters
- ▲ GPV Fuses
- ▲ MC4
- ▲ DC Circuit Breakers
- ▲ Isolator Switches
- ▲ MC4 Wrench and Crimping
- ▲ Tools

### Batteries

- ▲ Deep Cycle (DC)
- ▲ Deep Cycle GEL (DG)
- ▲ Lithium-ion Phosphate



## SOLAR PV MODULES



CANADIAN SOLAR  
BIFACIAL High Power Dual Cell  
PERC  
CS7N Monocrystalline 655 W

Module Efficiency: 21.1%  
Cells: 132 [2 x (11 x 6)]  
Module Dimensions: 2384 x 1303  
x 35 mm  
Module Weight: 37.9 kg (83.6 lbs)  
Temperature Coefficient (Pmax):  
-0.34 % / °C

\* 12 Years Enhanced Product  
Warranty on Materials and  
Workmanship\*  
\* 30 Years Linear Power  
Performance Warranty



CANADIAN SOLAR Mono PERC  
High Power Dual Cell PERC  
Module  
CS7N Monocrystalline 650 W

Module Efficiency: 20.9%  
Cells: 132 [2 x (11 x 6)]  
Module Dimensions: 2384 x 1303  
x 35 mm  
Module Weight: 34.4 kg (75.8 lbs)  
Temperature Coefficient (Pmax):  
-0.34 % / °C

\* 12 Years Enhanced Product  
Warranty on Materials and  
Workmanship\*  
\* 25 Years Linear Power  
Performance Warranty



CANADIAN SOLAR  
High Power Bifacial POLY PERC  
CS3W 425W

Module Efficiency: 19.0%  
Cells: 144 [2 x (12 x 6)]  
Module Dimensions: 2132 x 1048  
x 30 mm  
Module Weight: 28.4 kg (62.6 lbs)  
Temperature Coefficient (Pmax):  
-0.36 % / °C

\* 12 Years Enhanced Product  
Warranty on Materials and  
Workmanship  
\* 30 Years Linear Power  
Performance Warranty



CANADIAN SOLAR POLY PERC  
High Power Poly PERC Module  
CS3W Polycrystalline 425 W

Module Efficiency: 19.2%  
Cells: 144 [2 x (12 x 6)]  
Module Dimensions: 2108 x 1048  
x 35 mm  
Module Weight: 24.3 kg (53.6 lbs)  
Temperature Coefficient (Pmax):  
-0.36 % / °C

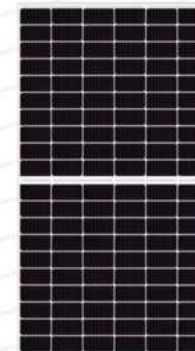
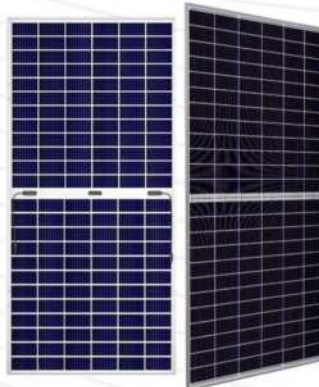
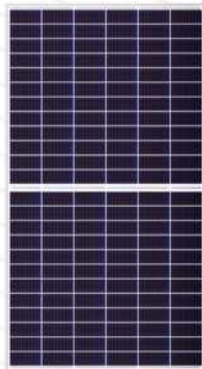
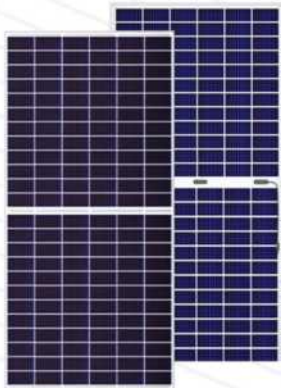
\* 12 Years Enhanced Product  
Warranty on Materials and  
Workmanship\*  
\* 25 Years Linear Power  
Performance Warranty



LONGI MONO PERC  
LR4-72HPH-455M

Module Efficiency: 20.9%  
Half-Cell (Lower operating  
temperature)  
Cells: 144 (6x24)  
Module Dimensions:  
2094x1038x35mm  
Module Weight: 23.3 kg  
Temperature Coefficient (Pmax):  
-0.35 % / °C  
Operational Temperature: -40°C ~  
+85°C  
Multiple Size Configurations

\* 12 Years Warranty for Materials  
and Processing  
\* 30 Years Warranty for Extra  
Linear Power Output



## SOLAR PV MODULES

**LONGI**

LONGI MONO PERC  
LR5-72HBD-545M

Module Efficiency: 21.3%  
Cells: 144 (6x24)  
Module Dimensions:  
2256x1133x35mm  
Module Weight: 32.3 kg  
Temperature Coefficient (Pmax):  
-0.34 % / °C  
Operational Temperature: -40°C ~  
+85 °C

\* 12 Years Warranty for Materials  
and Processing  
\* 30 Years Warranty for Extra  
Linear Power Output

**LONGI**

LR5-72HBD-545M

Module Efficiency: 21.3%  
Cells: 144 (6x24)  
Module Dimensions:  
2256x1133x35mm  
Module Weight: 32.3 kg  
Temperature Coefficient (Pmax):  
-0.34 % / °C  
Operational Temperature: -40°C ~  
+85 °C

\* 12 Years Warranty for Materials  
and Processing  
\* 30 Years Warranty for Extra  
Linear Power Output

**LONGI**

LR5-72HPH-550M

Module Efficiency: 21.5%  
Half-Cell (Lower operating  
temperature)  
Cells: 144 (6x24)  
Module Dimensions:  
2256x1133x35mm  
Module Weight: 27.2 kg  
Temperature Coefficient (Pmax):  
-0.34 % / °C  
Operational Temperature: -40°C  
~ +85 °C

\* 12 Years Warranty for Materi-  
als and Processing  
\* 25 Years Warranty for Extra  
Linear Power Output



JETION SOLAR POLY PV  
JT PAg 335W Polycrystalline Solar  
Module

1500V DC  
Module Efficiency: 17.3%  
Cells: 72 (6x12)  
Module Dimensions: 1956 x 992  
x 35 mm  
Module Weight: 22 kg  
Temperature Coefficient (Pmax):  
-0.41 % / °C  
Operating Temperature: -40 °C ~  
+ 85 °C

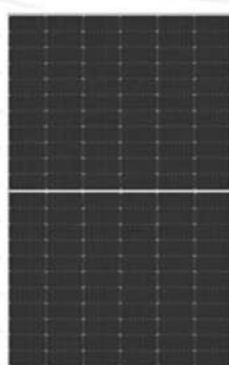
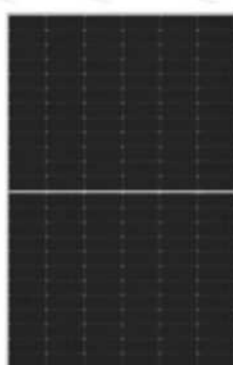
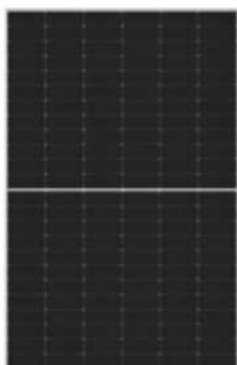
\* 12 years Product Warranty  
\* 25 years Performance Warranty



JETION SOLAR POLY PV  
JT PPg 270W Polycrystalline Solar  
Module

1500V DC  
Module Efficiency: 16.6%  
Cells: 60 (6x10)  
Module Dimensions: 1640 x 992  
x 35 mm  
Module Weight: 18 kg (39.7 lb)  
Temperature Coefficient (Pmax):  
-0.41 % / °C  
Operating Temperature: -40 °C ~  
+85 °C

\* 12 years Product Warranty  
\* 25 years Performance Warranty





## OFF-GRID INVERTERS



### Voltronic Expert VM 1000 12v

Rated Power: 1000 W  
Input Voltage: 230VAC  
AC Voltage Regulation: 230 VAC  
+/- 5%  
Efficiency: 90% ~ 93%  
Battery Voltage: 12 VDC  
Solar Charge Type: MPPT  
MPPT Range @ Operating  
Voltage: 17 ~ 80VDC  
Net Weight: 4.4 kg  
Operating Temperature: -10°C  
~ 50°C

Multi-functional inverter/charge,  
including inverter, solar charger,  
and battery charger  
Offer uninterruptible power  
support in portable size.  
Configurable AC/Solar input  
priority via LCD setting  
Optimized battery performance



### Voltronic Expert VP 3000 24v

Rated Power: 3000 W  
Input Voltage: 230VAC  
AC Voltage Regulation: 230 VAC  
+/- 5%  
Efficiency: 90% ~ 93%  
Battery Voltage: 24 VDC  
Solar Charge Type: PWM  
Net Weight: 6.3 kg  
Operating Temperature: -10°C ~  
50°C

Multi-functional inverter/charge,  
including inverter, solar charger,  
and battery charger  
Offer uninterruptible power  
support in portable size.  
Configurable AC/Solar input  
priority via LCD setting  
Optimized battery performance



### Voltronic Expert VM 3000 24 Plus

Rated Power: 3000 W  
Input Voltage: 230 VAC  
AC Voltage Regulation: 230 VAC  
+/- 5%  
Efficiency: 90% ~ 93%  
Battery Voltage: 24 VDC  
Solar Charge Type: MPPT  
MPPT Range @ Operating Volt-  
age: 30~115VDC  
Net Weight: 9.5 kg  
Operating Temperature: -10°C ~  
50°C

Multi-functional inverter/charge,  
including inverter, solar charger,  
and battery charger  
Offer uninterruptible power sup-  
port in portable size.  
Configurable AC/Solar input  
priority via LCD setting  
Optimized battery performance



Voltronic Expert VM IV 3.6 KVA  
Rated Power: 3600 W  
Input Voltage: 230VAC  
AC Voltage Regulation: 230 VAC  
+/- 5%  
Efficiency: 90% ~ 93%  
Battery Voltage: 24 VDC  
Solar Charge Type: MPPT  
MPPT Range @ Operating Volt-  
age: 120 ~ 450VDC  
Net Weight: 10 kg  
Operating Temperature: -10°C ~  
50°C

Built in Wifi for mobile monitor-  
ing  
Data log events stored in the in-  
verter  
Battery independent design  
Battery equalization extends life-  
cycle  
Enhanced charging power



Voltronic Expert MKS IV 5.6KVA  
Rated Power: 5600 W  
Input Voltage: 230VAC  
AC Voltage Regulation: 230 VAC  
+/- 5%  
Efficiency: 93%  
Battery Voltage: 48 VDC  
Solar Charge Type: MPPT  
MPPT Range @ Operating  
Voltage: 120 ~ 430 VDC  
Net Weight: 11 kg  
Operating Temperature: -10°C  
~ 50°C

Transformerless design  
Supports USB on the go  
function  
Data log events stored in the  
inverter  
Built in Wifi for mobile  
monitoring  
Battery independent function  
Parallel operation up to 9 units  
Reserved communication port  
for BMS



### Voltronic Expert VM 3000 24 Plus

Rated Power: 3000 W  
Input Voltage: 230 VAC  
AC Voltage Regulation: 230 VAC  
+/- 5%  
Efficiency: 90% ~ 93%  
Battery Voltage: 24 VDC  
Solar Charge Type: MPPT  
MPPT Range @ Operating  
Voltage: 30~115VDC  
Net Weight: 9.5 kg  
Operating Temperature: -10°C ~  
50°C

Multi-functional inverter/charge,  
including inverter, solar charger,  
and battery charger  
Offer uninterruptible power  
support in portable size.  
Configurable AC/Solar input  
priority via LCD setting  
Optimized battery performance



## OFF-GRID INVERTERS



Solis S5-EO1P5K-48:  
Max. input voltage: 500 V  
MPPT voltage range: 90-480 V  
MPPT number / Max. input strings number: 1/2  
Battery type: Li-ion / Lead-acid  
Battery voltage range: 48 V  
Rated output power: 5 kW  
Rated frequency: 50 Hz / 60 Hz  
Rated output current: 13.6 A / 13 A  
Peak efficiency (PV-AC): 96.7%  
Weight: 14 kg

Remote control & firmware upgrade  
Functional with or without a battery  
Support 3 phase unbalanced parallel operation  
Battery equalization for increased battery performance and lifespan  
Built-in bluetooth communication  
Parallel operation up to 10 units (50kW)  
80 Amp AC charger and 100 Amp solar charger



## SOLAR PUMP INVERTERS



### Voltronic Aspire 2.2 KW

Rated Output Power: 2200 W(3HP)  
(Supports 0.75 ~ 3 HP water pump)  
Nominal DC Voltage / Max. DC Voltage: 320 VDC / 450 VDC  
Start-up Voltage: 120VDC  
MPPT Voltage Range: 120 ~ 420VDC

AC Input Voltage: 220/230/240 VAC  
(-15 ~ +10%)  
Nominal Output Voltage: 220/230/240 VAC  
Efficiency: > 97%  
Motor Type: Single Phase (default)  
Operating Temperature: -20°C ~ 45°C at 100% full load, 46°C ~ 60°C power derating

Built in MPPT solar Charger  
Supports phase AC input when PV energy is not sufficient  
Built in full protection and self diagnosis  
Soft start function prevents water hammer effect and extends system status  
Remote Monitoring



### Voltronic Aspire 7.5 KW

Rated Output Power: 7500 W(10HP)  
(Supports 3 ~ 10 HP water pump)  
Nominal DC Voltage / Max. DC Voltage: 540 VDC / 800 VDC  
Start-up Voltage: 250 VDC  
MPPT Voltage Range: 250 ~ 780 VDC  
Number of MPP Tracker: 1

Nominal Output Voltage: 3 x 380/400/415/440 VAC  
Efficiency: > 97%  
Motor Type: Three phase asynchronous motor  
Operating Temperature: -20°C ~ 45°C at 100% full load, 46°C ~ 60°C power derating

Built in MPPT solar Charger  
Supports phase AC input when PV energy is not sufficient  
Built in full protection and self diagnosis  
Soft start function prevents water hammer effect and extends system status  
Remote Monitoring



### Voltronic Aspire 15 KW

Rated Output Power: 15000 W(10HP)  
(Supports 10 ~ 20 HP water pump)  
Nominal DC Voltage / Max. DC Voltage: 800 VDC  
Start-up Voltage: 250 VDC  
MPPT Voltage Range: 500 ~ 600 VDC  
Number of MPP Tracker: 1

Nominal Output Voltage: 3 x 380/400/415/440 VAC  
Efficiency: > 97%  
Motor Type: Three phase asynchronous motor  
Operating Temperature: -20°C ~ 45°C at 100% full load, 46°C ~ 60°C power derating

Built in MPPT solar Charger  
Supports phase AC input when PV energy is not sufficient  
Built in full protection and self diagnosis  
Soft start function prevents water hammer effect and extends system status  
Remote Monitoring





## HYBRID AND BATTERY INVERTERS



### Kaco Blueplanet Hybrid 10.0 TL3 (HBI-K01)

- Max. recommended PV generator power: 15000W
- MPP Range @ Rated Power: 420 V DC – 740 V DC
- Operating range: 200 V DC – 850 V DC
- Nom. power AC: 9 990 W
- Max. power AC: 11 000 VA
- Max. Efficiency: 98.1 %
- Weight: 37 kg
- 10 kW inverter output, also in battery operation
- 3-phase mains parallel operation, off-grid capable
- 2 MPP trackers for flexible integration of solar PV systems
- Integrated battery management and monitoring



### Kaco Blueplanet Gridsave 50.0 TL3-S (HBI-K02)

- Rated DC voltage: 765 V
- Max. input current: 90 A
- Number of DC inputs: 1
- Rated AC Output : 50,000 VA
- Max. Efficiency: 98.5 %
- Weight: 75kg
- Bidirectional battery inverter
- AC-coupled, Scalable for different battery types
- High system availability due to several inverters connected to one battery
- High efficiency, especially in the partial load range
- Reactive power capable and enabled
- Easy to control through open communication protocol standard



### Solis RHI-3K-48ES-5G (HBI-S03)

- Rated input voltage: 330 V
- MPPT voltage range: 90-520 V
- MPPT number/Max. input strings number: 2/2
- Battery type: Li-ion / Lead-acid
- Battery voltage range :42-58 V
- Rated output power: 3 kW
- Rated frequency: 50 Hz / 60 Hz
- Rated output current: 13.6 A / 13 A
- Max. efficiency: >97.5%
- Weight: 18.3 kg
- Uninterrupted power supply, 20ms reaction
- Intelligent EMS function, improving battery's reliability
- Remotely control & upgrade function, making digital power plant maintenance at your fingertips
- Fanless design, long lifespan
- Higher charge-discharge efficiency, improving the economic benefits



### Solis RHI-5K-48ES-5G (HBI-S04)

- Rated input voltage: 330 V
- MPPT voltage range: 90-520 V
- MPPT number/Max. input strings number: 2/2
- Battery type: Li-ion / Lead-acid
- Battery voltage range :42-58 V
- Rated output power: 5 kW
- Rated frequency: 50 Hz / 60 Hz
- Rated output current: 22.7 A / 22 A
- Operating ambient temperature range: -25 ~ +60°C
- Max. efficiency: >97.5%
- Weight: 18.3 kg
- Uninterrupted power supply, 20ms reaction
- Intelligent EMS function, improving battery's reliability
- Remotely control & upgrade function, making digital power plant maintenance at your fingertips
- Fanless design, long lifespan
- Higher charge-discharge efficiency, improving the economic benefits



### Solis RHI-3P 10K-HVES-5G (HBI-S05)

- Rated input voltage: 600 V
- MPPT voltage range: 200-850 V
- MPPT number/Max. input strings number: 2/4
- Battery type: Li-ion
- Battery voltage range :160-600 V
- Rated output power: 10 kW
- Rated frequency: 50 Hz / 60 Hz
- Rated output current: 15.2 A / 14.5 A
- Operating ambient temperature range: -25 ~ +60°C
- Max. efficiency: > 98.4%
- Weight: 25.1 kg
- Support three-phase imbalance on backup output port
- Time of use shifting and peak shaving capabilities to grid
- Remotely control and upgrade any selected inverter
- Solis supply optional arc fault circuit interrupter (AFCI) function
- 3 operating modes (self-consumption; time-of-use; off-grid back-up) & programmable energy management



## STRING INVERTERS



### Kaco Blueplanet 5.0 NX1 (STI-K01)

- Transformerless
- Single-Phase String Inverter
- MPP Range @ Rated Power: 220 – 480V
- Rated DC voltage/start voltage: 360V/ 100V
- Number of MPP Tracker: 2
- Rated Active Power: 5000 VA
- Max. Efficiency: 97.5 %
- Lightweight (11kg)

- Simple Installation, also Outdoors (IP65)
- Smart Monitoring With User-Friendly App
- Quick Wi-Fi Setup With App



### Kaco Blueplanet 5.0 TL3 (STI-K02)

- Transformerless
- Three-Phase String Inverter
- MPP Range: 240 –800 V
- Rated DC voltage/start voltage: 653 V/250 V
- Number of MPP Tracker: 2
- Rated Output: 5000 VA
- Max. Efficiency: 98.3 %
- Weight: 30kg

- Rapid amortization of residential and small commercial PV arrays
- Simple Installation, also Outdoors
- Data logger with web server for continuous system monitoring
- High flexibility for unconventional system designs



### Kaco Blueplanet 10.0 TL3 (STI-K03)

- Transformerless
- Three-Phase String Inverter
- MPP Range: 470 –800 V
- Rated DC voltage/start voltage: 653 V/250 V
- Number of MPP Tracker: 2
- Rated Output: 10,000 VA
- Max. Efficiency: 98.5 %
- Weight: 30kg

- Simple Installation, also Outdoors
- Data logger with web server for continuous system monitoring
- High flexibility for unconventional system designs



### Kaco Blueplanet 20.0 TL3 (STI-K04)

- Transformerless
- Three-Phase String Inverter
- MPP Range: 515–800 V
- Rated DC voltage/start voltage: 673V/ 250V
- Number of MPP Tracker: 2
- Rated Output: 20,000 VA
- Max. Efficiency: 98.4 %
- Weight: 48kg

- Installation-friendly connection area, and user-friendly operation
- High flexibility for demanding system designs and string configurations
- Internal storage of log data, no separate data logger required



### Kaco Blueplanet 50.0 TL3 (STI-K05)

- Transformerless
- Three-Phase String Inverter
- MPP Range: 580 –900 V
- Rated DC voltage/start voltage: 600 V/670 V
- Number of MPP Tracker: 1
- Rated Output: 50,000 VA
- Max. Efficiency: 98.5 %
- Weight: (70,71,73)kg

- Compact, wall-mounted inverter for decentralized system designs
- Special properties for extreme climatic conditions
- Installation-friendly connection area, user-friendly operation
- Integrated section switches for cost-effective grid and plant protection with Powador -protect



### Kaco Blueplanet 60.0 TL3 (STI-K06)

- Transformerless
- Three-Phase String Inverter
- MPP Range: 580 –900 V
- Rated DC voltage/start voltage: 600 V/670 V
- Number of MPP Tracker: 1
- Rated Output: 60,000 VA
- Max. Efficiency: 98.5 %
- Weight: (71,73)kg

- Compact wall-mounted unit for decentralized megawatt projects
- Integrated section switches for cost-effective grid and plant protection with Powador-protect
- Tailored for economical use in solar parks
- Installation-friendly connection area, user-friendly operation





## STRING INVERTERS



### Kaco Blueplanet 105 TL3 (STI-K07)

- String inverter for commercial and industrial PV systems
- MPP Range: 591–1300 V
- Rated DC voltage/start voltage: 620V / 675V
- Number of MPP Tracker: 1
- Rated Output: 99,900 VA
- Max. Efficiency: 98.9 %
- Weight: 78.2 kg
- Cost-saving due to 400 V line voltage and integrated section
- Optimised for PV modules with 1000 V and 1500 V
- Highest efficiency and overload capacity through silicon carbide technology
- High power density for easy handling and logistics



### Solis S6-GR1P 5K (STI-S08)

- Single Phase Inverter
- Transformerless
- Recommended max. PV power: 7.5 kW
- Max. input voltage: 600 V
- Rated input voltage: 330V
- MPP voltage range: 90–520 V
- Max. input current: 14 A / 14 A
- MPPT number: 2
- Max. input strings number: 2
- Rated output power: 5 kW
- Rated grid voltage: 1/N/PE, 220 V / 230 V
- Rated grid frequency: 50 Hz / 60 Hz
- Rated grid output current: 22.7 A / 21.7 A
- THDi: <3%, low harmonic distortion against grid
- Max. Efficiency: 97.7%
- Dimensions (W\*H\*D): 310\*543\*160 mm
- Weight: 12 kg
- Operating ambient temperature range: -25 ~ +60°C
- Integrated Export Power Manager (EPM)
- Super high frequency switching technology
- Super high frequency switching technology
- WiFi/GPRS Real time monitoring
- AFCI protection, proactively reduces fire risk



### Solis S5-GR3P 10K (STI-S09)

- Three Phase Inverter
- Recommended max. PV power: 15 kW
- Rated input voltage: 600V
- MPPT voltage range: 160–1000 V
- Max. input current: 16 A / 16 A
- MPPT number: 2
- Max. input strings number: 2
- Rated output power: 10 kW
- Rated grid voltage: 3/N/PE, 220 V / 380 V, 230 V / 400V
- Rated grid frequency: 50 Hz / 60 Hz
- Rated grid output current: 15.2 A / 14.4 A
- THDi: <2%
- Max. Efficiency: 98.5%
- Dimensions (W\*H\*D): 310\*563\*219 mm
- Weight: 18 kg
- Operating ambient temperature range: -25 ~ +60°C
- Compact design, simple installation and maintenance
- AFCI protection, proactively reduces fire risk
- Supports RS485, WiFi, GPRS
- Automatic voltage stabilization technology in weak grid conditions
- Supports high power modules for lower installation costs
- Ingress protection IP66



### Solis S5-GR3P 20K (STI-S10)

- Three Phase Inverter
- Transformerless
- Recommended max. PV power: 30 kW
- Max. input voltage: 1100 V
- Rated input voltage: 600 V
- Start-up voltage: 180 V
- MPPT voltage range: 160–1000 V
- Max. input current: 32 A / 32 A
- MPPT number: 2
- Max. input strings number: 4
- Rated output power: 20 kW
- Rated grid voltage: 3/N/PE, 220 V / 380 V, 230 V / 400V
- Rated grid frequency: 50 Hz / 60 Hz
- Rated grid output current: 30.4 A / 28.9 A
- THDi: <2%
- Max. Efficiency: 98.7%
- Dimensions (W\*H\*D): 310\*563\*219 mm
- Weight: 20.3 kg
- Operating ambient temperature range: -25 ~ +60°C
- AFCI protection, proactively reduces fire risk
- Supports export power control
- Scan to register on SolisCloud, supports remote upgrade and control
- Compact design, simple installation and maintenance
- Supports RS485, WiFi, GPRS



### Solis S5K-5G (STI-S11)

- Three Phase Inverter
- Transformerless
- Max. input voltage: 1100 V
- Rated input voltage: 600 V
- MPPT voltage range: 200–1000 V
- MPPT number: 4
- Max. input strings number: 8
- Rated output power: 50 kW
- Rated grid voltage: 3/PE, 480 V
- Rated grid frequency: 50 Hz / 60 Hz
- Rated grid output current: 60.1 A
- THDi: <3%
- Max. Efficiency: 98.8%
- Operating ambient temperature range: -25 ~ +60°C
- Dimensions (W\*H\*D): 647\*629\*252 mm
- Weight: 45 kg
- Fanless Cooling concept
- WiFi/GPRS Real time monitoring
- IP65 Ingress protection
- 3/4 MPPT design with precise MPPT algorithm
- Perfect commercial site monitoring solution
- Strings intelligent monitoring, Smart I-V curve scan
- 150% DC overload ratio, 13A input for each PV string
- Fuse free design to avoid fire hazard



### Solis S5 - GC 110K (STI-S12)

- Three Phase Inverter
- Max. input voltage: 1100 V
- Rated input voltage: 600 V
- MPPT voltage range: 180–1000 V
- Max. input current: 10\*32 A
- MPPT number: 10
- Max. input strings number: 20
- Rated output power: 110 kW
- Rated grid voltage: 3/N/PE, 220 V/380 V, 230 V/400 V
- Rated grid frequency: 50 Hz / 60 Hz
- Rated grid output current: 167.1 A / 158.8 A
- THDi: <3%, low harmonic distortion against grid
- Max. Efficiency: 98.7%
- Dimensions (W\*H\*D): 1065\*567\*344.5 mm
- Weight: 91 kg
- Operating ambient temperature range: -25 ~ +60°C
- Intelligent redundant fan-cooling Cooling concept
- Intelligent string monitoring, smart I-V curve scan
- IP66 Ingress protection
- High power tracking density 90MPPT/MW
- Power line communication (PLC) (optional)
- Overvoltage load reduction and leakage current suppression technology, low failure rate



## BATTERIES



### Ritar AGM Deep Cycle VRLA Batteries

- Voltage class: 12V
- Capacity range: 100Ah
- Superior deep cycle design



### Ritar Deep Cycle GEL VRLA Batteries

- Voltage class: 12V
- Rated Capacity: 100Ah
- Weight: 29.0Kg (63.93Lbs)
- 15~20 years floating design life
- Can deliver 400 cycles at 100% DOD



PYLONTECH

### PYLONTECH LOW VOLTAGE ENERGY STORAGE SYSTEM - US 2000

- Nominal Voltage: 48V
- Nominal Capacity: 2400 Wh
- Dimension: 442\*410\*89 mm
- Weight: 24 kg
- Working Temperature: 0~50 °C
- Design life 15 Years (25°C / 77°F)



PYLONTECH

### PYLONTECH RECHARGEABLE LI-ION BATTERY - UP 5000

- Nominal Voltage: 48 V
- Nominal Capacity: 4800 Wh
- Dimension: 442\*420\*165 mm
- Weight: 40 Kg
- Discharge Voltage: 44.5 ~ 53.5 (V)
- Design life 10+ Years (25°C / 77°F)



## PROTECTION ACCESSORIES



### SUP2H-PV Series Surge Protector

Electricity Type: DC  
Maximum working voltage: 250AC/30VDC  
Maximum working current (A): 1A (250V/AC)  
Working Temperature: -3~+70  
Quality Assurance: 18 Month  
Mechanical life: 10years



### SGR Series DC Fuse

Type: Thermal DC fuse  
Usage: Low Voltage, Solar PV  
Breaking Capacity: High, 33KA  
Rated Current: 1~100A  
Rated Voltage: 1000V  
Pole: 1P  
Certificate: IEC, ROHS  
Professional Manufacture: 8 Years  
Guarantee Period: 2 Years



### SL7 Polarity DC Circuit Breaker

Overcurrent protection  
Ue Rated Operating Voltage (VDC):  
AC250V AC415V DC440V  
DC550V DC800V DC1000V  
Rated Current In (A):  
6-10-16-20-25-32-40-50-63



### SNH2XLg PV 1100V DC 125A-400A Photovoltaic Fuse

Interrupting Capacity:  
30,000 Amperes @ 1100V DC  
(Time Consoloni: 1-3ms)



### SRD-30 DC Fuse

Rated Voltage: DC1100V  
Short-Circuit Breaking Capacity:  
33 (KA)  
Rated Current:  
1,2,3,4,5,6,8,10,12,15,20,25,30 (A)  
Pole(s): 1P



### SUP2H1-PV Surge Protective Device

UCPV(VDC): 1000V/ 1200V/ 1500V  
Max system discharge current (8/20 μs)Imax: 40 (KA)  
Technology: Short-Circuit Interruption (SCI) Overcurrent Protection  
Operating Temperature Range (TU): -40°C to +80°C





## PROTECTION ACCESSORIES



### SM1-PV DC Breaker Non-Polarity

Type: Moulded Case  
Poles Number: 4  
Rated Current In(A): 63A-400A  
DC Breaker  
Ur Rated Operating Volt-  
age(VDC): 3P 750V 4P  
DC1000V  
Trip Type: Thermal-Magnetic  
Ambient Temperature(°C):  
-20°C~70°C



### SL7N-125D DC Circuit Breaker

Pole: 3  
Rated Operational Voltage (Ue):  
DC1500V  
Rated Insulation Voltage (Ui):  
1500V  
Rated Operational Current (In):  
6A/10A/16A/20A/25A/32A  
40A/63A/80A/100A/125A  
Working Temperature:  
-40°C~75°C



### SL7N-63H DC Circuit Breaker 1500V

Certification: TVU, CE  
Rated Voltage: DC1500V  
Short-Circuit Breaking Capacity:  
6KA  
Poles: 2P/4P  
Rated Current:  
10A/25A/25A/32A/40A



### SCB8-125DC DC Circuit Breaker



### SM8-250HPV DC Molded Case Circuit Breaker



### SM8-630HPV Molded Case Circuit Breaker

Breaking capacity: H(15kA)  
Pv code: DC dedicated  
Rated working voltage: DC1500V  
Rated working current:  
100 / 125 / 160 / 200 / 225 / 250  
/ 400 / 500 / 630A



### SL7N-63 DC Circuit Breaker

Certification: TVU, CE  
Rated Voltage: DC1000V  
Short-Circuit Breaking Capacity:  
6 KA  
Poles: 1P,2P,3P,4P  
Rated Current:10A, 25A, 25A,  
32A, 50A, 63A



### SUP2-PV DC SPD 1500V

Surge protector device  
Maximum continuous operating  
voltage (Uc): 1500VDC  
Maximum discharge current  
(Imax) (8/20u s): 40KA  
Protection level (In): Up to 5.0kV  
Working temperature:  
40°C~+70°C  
Pole(s): 3P



### SUP2H-PV/SUP2H1 -PV/SUP2-PV DC Surge Protector Device



### DC MCCB 1500V Overload delay protection

Certification: TVU, CE, CB  
Suitable for circuits below  
1500VDC  
Rated voltage: DC1500V  
Short-circuit breaking capacity:  
3P:15KA 4P:30KA  
Poles: 3P/4P  
Rated current:  
3P:100/125/160/200/225/250A  
4P:400/500/630



### Load Disconnect Switch

Mainly for isolation in the circuit  
Suitable for circuits below  
1500VDC  
cabinet/combiner box/photovol-  
taic system  
Model Number:SGL8N-2  
Certification: TVU, CE, IEC  
Rated voltage: DC1500V  
Uimp:8 KA  
Poles: 1P/2P/3P/4P/6P



### SRD-50H DC Fuse 1500V

DC fuse isolating switch  
Suitable for photovoltaic systems  
below 1500VDC  
Rated insulation voltage: 1600V  
Rated operational voltage:  
DC1500V  
Rated operational current:  
2/3/4/5/6/8/10/12/15  
16/20/25/30/32/35/40/45/50A  
Pole: 1P



## PROTECTION ACCESSORIES



### Main Switch for DIN Rail Mounting

DIN rail mounting  
DIN rail mounting  
Extremely short power shut off time of approx. 3ms  
2 poles and 4 poles available  
IEC60947.3 standard  
DC21 B: 16A, 25A and 32A up to 1500V DC



### SNH1gPV 1000V DC 32A-160A Photovoltaic Fuse

Capable of interrupting low over currents associated with faulted photovoltaic string arrays (reverse current, multi-array fault)  
Standard: IEC 60269-6, GB/T 13539.6  
Interrupting Capacity: 50,000 Amperes at 1000V DC (Time Constant: 1-3 ms)  
SNH1 B  
Recommended fuse-base for NH1 fuse  
Model of product: NH1B



### Dc isolating switch waterproof bus-box

DC isolating switch waterproof bus-box is suitable for photovoltaic system  
The rated voltage  $U_e$ : DC1500V  
The rated current  $I_e$ : 40A and below  
Standard: GB/T 14048.2 GB/T 14048.1/3 GB/T18802.1  
The international standard: IEC/EN60947-2 AS/NZS IEC60947.3 IEC61643-31  
Suitable for indoor or outdoor use  
The installation type: suitable for vertical or horizontal use  
The environment temperature: -40°C +70°C



### Fuse-base with blade contacts



### SMC4Y Solar Connector

Gender: Male & Female MC4 PV Y Type connector  
Rated current: 30A  
Withstanding Voltage: 1000Vdc of MC4 PV Y Type connector  
Contact Resistance:  $\leq 0.3m\Omega$   
Protection class: Class II  
Temperature Range: -40°C ~ +90°C  
Protection Degree: IP67 MC4 PV Y Type connector  
Unmating Force: 200 Newton MC4 PV Y Type connector  
Contact material: Copper, silver plated of MC4 PV Y Type connector



### Solar Connector

Gender: Male & Female IP67 cable connector solar  
Rated current: 30A  
Withstanding Voltage: 1000Vdc of IP67 cable  
Contact Resistance:  $\leq 0.3m\Omega$   
Protection class: Class II  
Temperature Range: -40°C ~ +90°C



### Single core PV Cable

Number of Conductors: one  
Application: solar energy system  
cross section: 1\*2.5 mm<sup>2</sup>  
Life time: 25 years  
Smallest permissible bending radius: 5\*D  
Temperature range: -40°C ~ +90°C  
Wire: class5, tinned



### Twins core PV Cable

Certificate: TUV, UL  
Rated voltage: AC 600/1000V DC 1000/1800V  
Core: 1 Core / 2 Core  
Cross-section: 1.5/2.5/4/6/10 mm<sup>2</sup>  
Rated temp: -40°C ~ +90°C  
Rated current: 20-95A  
Insulation Material: XLPE  
Type: High Voltage  
Application: solar panel system  
Conductor Material: Copper





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