



S M A R T G R E E N S T A T I O N

SMART GREEN STATION

CATALOGUE FOR PHOTOVOLTAICS INSTALLATION

This catalogue shows a preview of the products supplied by SGS, for more information about our products and our list of prices contact us.

CONTACT US:

tel. Rodrigo Godoy (722 569 321) // Fermin Lecanda (+34 648 00 69 55) //

Marta Hergueta (+34 634 20 95 56) // Jon Aizkorreta (+34 664 84 38 19)

E-mail: smartgreenstation@gmail.com

559177-4319, Sweden

Bankgiro: 719-9128

LIST OF PRODUCTS

SOLAR PANELS	3
Solar Panel 455W JA Solar Mono PERC	3
JA Solar Panel 460W 24V Monocrystalline PERC	4
Solar Panel 400W Deep Blue 3.0 JA Solar Mono	5
Solar Panel 405W Deep Blue 3.0 JA Solar Mono	6
Black Solar Panel Exiom Solar Mono	7
INVERTERS	8
Huawei SUN2000-10KTL-M1 10kW Three-Phase Inverter	8
Hybrid Three-Phase Inverter Growatt MOD 5000TL3-XH	9
Hybrid Three-Phase Inverter Growatt MOD 6000TL3-XH	10
Hybrid Three-Phase Inverter Growatt MOD 7000TL3-XH	11
Hybrid Three-Phase Inverter Growatt MOD 8000TL3-XH	11
Hybrid Three-Phase Inverter Growatt MOD 9000TL3-XH	13
Hybrid Three-Phase Inverter Growatt MOD 10000TL3-XH	14
BATTERIES	15
BMS Huawei Luna2000 Lithium Battery	15
Huawei Luna2000 Lithium Battery Module 5kWh	16
Growatt ARK XH Lithium Battery	17

**This catalogue shows a preview of the products supplied by SGS, for more information about our products and our list of prices contact us.*

SOLAR PANELS

Solar Panel 455W JA Solar Mono PERC:



With a 25-year guarantee, made of monocrystalline silicon from the renowned international brand JA Solar. It offers one of the best productions for our photovoltaic system since it is one of the most powerful monocrystalline models at great value for money. It is capable of providing around 1350Wh per day in winter to our solar installation and practically twice as much in summer. Thanks to its PERC technology with high-performance monocrystalline half cells, it obtains an efficiency greater than 20% given the size of the module. It has dimensions of 2112 x 1052 x 35mm and incorporates connection boxes for each wiring, positive and negative, with MC4 connectors at their ends.

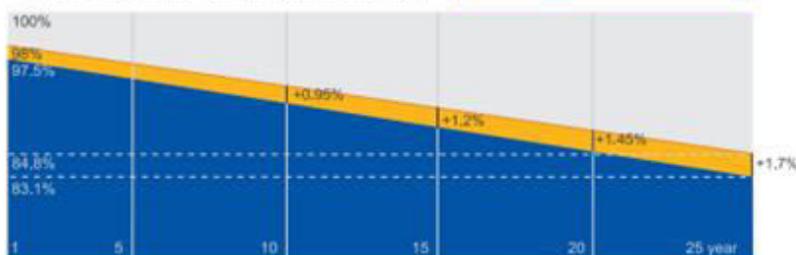
Technical details

- Solar Panel Power: 455W
- Solar Panel Cell Type: Monocrystalline PERC
- Solar Panel Rigidity: Rigid
- Solar Panel Dimensions: 2112 x 1052 x 35 mm
- Maximum Power Voltage: 41.82V
- ISC Short Circuit Current: 11.41A
- Module Efficiency: 20.4% Module Efficiency: 20.4% Module Efficiency: 20.4% Module Efficiency: 20.4%
- Maximum IMP Output Amps: 10.88A
- Open Circuit Voltage: 49.85V
- Solar Panel Working Voltage: 24V
- Solar Panel Weight: 25Kg
- Solar Panel Frame: White and Grey
- Solar Panel Warranty: 25 years

Superior Warranty

- 12-year product warranty
- 25-year linear power output warranty

0.55% Annual Degradation Over 25 years



■ New linear power warranty ■ Standard module linear power warranty

**This catalogue shows a preview of the products supplied by SGS, for more information about our products and our list of prices contact us.*

JA Solar Panel 460W 24V Monocrystalline PERC:



With a 25-year guarantee, made of monocrystalline silicon from the renowned international brand JA Solar. It offers one of the best productions for our photovoltaic system since it is one of the most powerful monocrystalline models at great value for money. It is capable of providing around 1350Wh per day in winter to our solar installation and practically twice as much in summer. Thanks to its PERC technology with high-performance monocrystalline half cells, it obtains an efficiency greater than 20% given the size of the module. It has dimensions of 2120 x 1052 x 35mm and incorporates connection boxes for each wiring, positive and negative, with MC4 connectors at their ends.

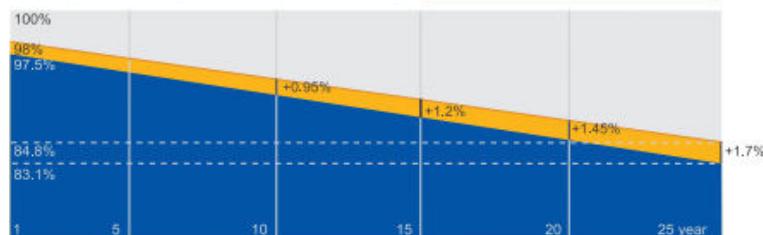
Technical details

- Solar Panel Power: 460W
- Solar Panel Cell Type: Monocrystalline PERC
- Solar Panel Rigidity: Rigid
- Solar Panel Dimensions: 2112 x 1052 x 35 mm
- Maximum Power Voltage: 42.13V
- ISC Short Circuit Current: 11.41A
- Module Efficiency: 20.4%.
- Maximum IMP Output Amps: 10.92A
- Open Circuit Voltage: 50.01V
- Solar Panel Working Voltage: 24V
- Solar Panel Weight: 25Kg
- Solar Panel Frame: White and Gray
- Solar Panel Warranty: 25 years

Superior Warranty

- 12-year product warranty
- 25-year linear power output warranty

0.55% Annual Degradation
Over 25 years



■ New linear power warranty ■ Standard module linear power warranty

**This catalogue shows a preview of the products supplied by SGS, for more information about our products and our list of prices contact us.*

Solar Panel 400W Deep Blue 3.0 JA Solar Mono:



The 400W Deep Blue 3.0 JA Solar Mono Solar Panel is slightly larger than the classic 60-cell panel. Having half cells in two groups requires additional space. In summary, its dimensions are 1722 x 1134 x 30mm and a weight of 21.5 kg. The frame of the panel is made of anodized aluminum so it has a high resistance to be placed correctly to the structure on which it is located. This also avoids the twisting of the module to ensure its integrity.

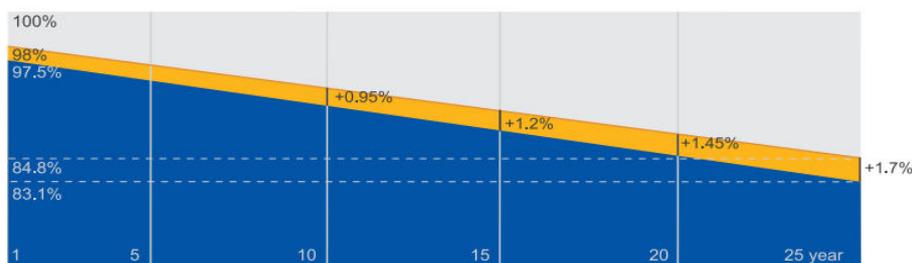
Technical details

- Solar Panel Power: 400W
- Solar Panel Cell Type: Monocrystalline
- Solar Panel Rigidity: Rigid
- Solar Panel Dimensions: 1722 x 1134 x 30mm
- Maximum Power Voltage: 31.01V
- ISC Short Circuit Current: 13.79A
- Module Efficiency: 20.5%.
- Maximum IMP Output Amps: 12.9A
- Open Circuit Voltage: 37.07V
- Solar Panel Weight: 21.5kg
- Solar Panel Frame: White and Gray
- Solar Panel Warranty: 25 years

Superior Warranty

- 12-year product warranty
- 25-year linear power output warranty

0.55% Annual Degradation
Over 25 years



■ New linear power warranty ■ Standard module linear power warranty

**This catalogue shows a preview of the products supplied by SGS, for more information about our products and our list of prices contact us.*

Black Solar Panel Exiom Solar Mono:



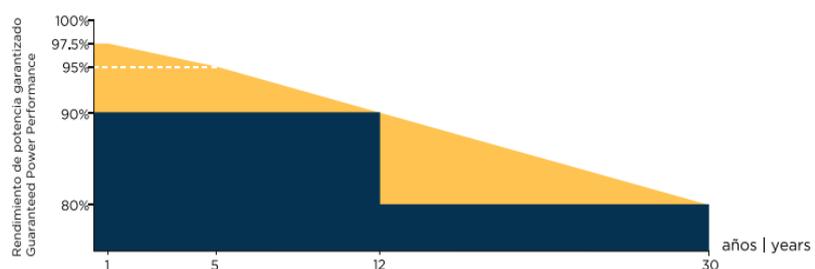
Exiom Solution designs, manufactures and delivers high-performance solar electric technology worldwide. Our high-efficiency solar cell let us manufacture the different kinds of panels to get the most efficient in your installations.

Technical details

- Dimensions: 1754*1096mm
- Max. system Voltage (V): 1500
- Weight: 21 kg
- Max. Series Fuse Rating (A): 20
- Photovoltaic Technology Cable 4.0mm
- Portrait: 280/280 mm
- Length can be customized
- Glass: 3.2 mm, High Transmission, AR Coated Heat Strengthened Glass
- Nº Cells: 120 cells
- Mechanical load: $\geq 5400\text{Pa}$
- Back sheet: White Material
- Encapsulant material: EVA/POE
- Junction box: IP 68 rated
- Application class: A
- Connector: MC4 EVO2 / TS4
- Operating temperature: $-40\sim+85^{\circ}\text{C}$

■ Lineal performance warranty

■ Standard performance warranty



**This catalogue shows a preview of the products supplied by SGS, for more information about our products and our list of prices contact us.*

INVERTERS

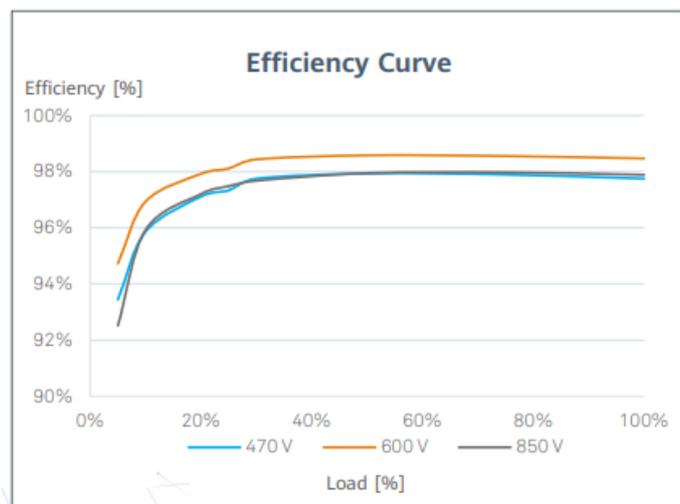
Huawei SUN2000-10KTL-M1 10kW Three-Phase Inverter



The Huawei SUN2000-10KTL-M1 10kW Three-Phase Inverter is the highest power model in Huawei's domestic KTL range. It offers the possibility of connecting a high voltage Huawei Luna2000 battery to improve self-consumption. The Huawei SUN2000-10KTL-M1 10kW three-phase inverter incorporates two MPPT that offer more flexibility and efficiency to the system together with Wifi connectivity. An inverter with great versatility and operating efficiency.

Technical details

- Peak Inverter Power: 10000W
- Continuous Output Power: 10000W
- MPP Operating Range: 470V - 850V
- Inverter Weight: 17Kg



Hybrid Three-Phase Inverter Growatt MOD 5000TL3-XH:



The Growatt MOD 5000TL3-XH Three Phase Hybrid Inverter is a small size three phase grid connected inverter with a power up to 5000W and has 2 MPPT charge controllers. It is capable of working connected to the grid while also being connected to batteries to store excess energy. It is important to note that with this product, it is not necessary to purchase batteries at the beginning of the purchase, which considerably reduces both the cost of the installation and the amortization time.

It is prepared to work connections to three-phase networks with 3 phases and neutral, it is characterized by generating a pure sine wave and it is usually used for any electrical device that works in alternating current since it is able to feed any load whether resistive, capacitive or inductive, so that the electrical devices of the house will not suffer any damage.

Technical details

- Maximum recommended power to connect: 10,000W.
- Maximum DC voltage: 1100V
- Starting voltage: 160V
- MPPT voltage range: 140V - 1000V
- Rated operating voltage: 600V
- Maximum input current: 16A at MPPT
- Maximum short circuit current: 20A
- Number of MPPT trackers: 2
- Maximum efficiency: 98.3%.
- Weight: 12.5 kg
- Dimensions: 425 x 387 x 147 mm

Hybrid Three-Phase Inverter Growatt MOD 6000TL3-XH:



The Growatt MOD 6000TL3-XH Three Phase Hybrid Inverter is a small size three phase grid connected inverter with a power up to 6000W and has 2 MPPT charge controllers. It is capable of working connected to the grid while also being connected to batteries to store excess energy. It should also be noted that with this product, it is not necessary to purchase batteries at the beginning of the purchase, which considerably reduces the cost of installation and the payback time is shorter.

It is prepared to work connections to three-phase networks with 3 phases and neutral, it is characterized by generating a pure sine wave and it is usually used for any electrical device that works in alternating current since it is capable of feeding any load whether resistive, capacitive or inductive, so that the electrical appliances of the house will not suffer any damage.

Technical details

- Maximum recommended power to connect: 12,000W.
- Maximum DC voltage: 1100V
- Starting voltage: 160V
- MPPT voltage range: 140V - 1000V
- Rated operating voltage: 600V
- Maximum input current: 16A at MPPT
- Maximum short circuit current: 20A
- Number of MPPT trackers: 2
- Maximum efficiency: 98.3%.
- Weight: 12.5 kg
- Dimensions: 425 x 387 x 147 mm

BATTERIES

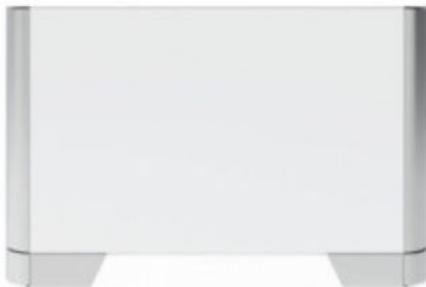
The purchase of the Huawei Luna2000 Lithium Battery BMS must always be associated with the purchase of at least ONE Huawei Luna2000 5kWh Lithium Battery Module.

BMS Huawei Luna2000 Lithium Battery



The Huawei Luna2000 Lithium Battery BMS is a controller that acts as an interface between the battery and the Huawei inverter of the single-phase L1 KTL and the three-phase M1 KTL ranges. It can manage between 1 and 3 5kWh batteries, so each BMS is capable of supporting up to 15kWh of storage. It has IP65 protection, a 10-year warranty, and an expansion capacity of up to 30kWh if we install a second BMS in our self-consumption system with a Huawei hybrid inverter.

Huawei Luna2000 Lithium Battery Module 5kWh



The Huawei Luna2000 5kWh Lithium Battery Module is a high voltage battery compatible with Huawei KTL single phase L1 and KTL three phase M1 inverters. It requires a controller or BMS on top to act as an interface to the inverter. For each BMS it is possible to install up to 3 battery units for a total of 15kWh. It has IP65 protection, 10 years warranty, and an expansion capacity of up to 30kWh if we install a second BMS in our self-consumption system with a Huawei hybrid inverter.

Technical Details

- A number of battery modules: 1.
- Usable useful energy: 5kWh.
- Maximum power output: 2.5kWh.
- Peak power output: 3.5kWh for 10 seconds.
- Dimensions: 670 x 150 x 600 mm.
- Weight: 63.8kg.
- Warranty: 10 years (meeting manufacturer's requirements).

**This catalogue shows a preview of the products supplied by SGS, for more information about our products and our list of prices contact us.*

Our package includes the Lithium Battery and one module, but you can add up to 2 extra modules for higher voltages.



**This catalogue shows a preview of the products supplied by SGS, for more information about our products and our list of prices contact us.*

Growatt ARK XH Lithium Battery



The Growatt ARK XH 10.2kWh high voltage lithium battery is suitable for self-consumption Growatt systems with the possibility of storing surplus production. This 10.2kWh lithium battery has a long service life and can be supplemented with additional 2.5kWh modules to increase the capacity of our battery bank. Includes the base, four modules and a BMS controller to communicate with the Growatt MIN-XH inverters.

This package is composed by:

1) **1 x BMS Lithium Battery Growatt ARK BDC 95045-A1**

This BMS is used as an interface between our Growatt ARK battery bank and the Growatt MIN-XH hybrid inverter. They communicate with each other so that the charging and discharging of the battery is done as optimally as possible and so that the status of the batteries can be monitored together with the rest of the system.



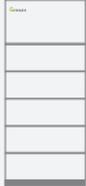
2) **Growatt ARK 2.5H-A1 HV Lithium Battery Module (1-5 pieces)**

This high voltage battery module is suitable for Growatt self-consumption systems that use the battery for surplus storage. This lithium battery provides a long service life and can be supplemented with further 2.56kWh modules to increase the capacity of our battery bank. With an extensive warranty and more than 6000 cycles of use, Growatt ARK batteries for self-consumption are a reliable and durable bet for our solar installation.



**This catalogue shows a preview of the products supplied by SGS, for more information about our products and our list of prices contact us.*

The voltage of the Battery will vary depending on how many modules you add, ranging from 5.1 kWh (1 module) to 17,9 kWh (5 modules) as the picture shows.

Datasheet	ARK 5.1XH	ARK 7.6XH	ARK 10.2XH	ARK 12.8XH	ARK 15.3XH	ARK 17.9XH
System Demo						

3) 1 x Growatt ARK Battery Base:

This base serves as a bottom bracket for installing Growatt ARK batteries in a tower. One per battery tower should be included.



4) 1 x Growatt ARK XH-MIN cable:

This cable is used to connect an ARK HV-XH battery tower to the corresponding inverter. It includes the appropriate connection terminals to make the installation of the system as easy as possible.