SOLAR ENERGY KIT MODEL: SISMA-CS6000

Introduction:

SITECNO solar energy kit is on-grid PV system, a complete solution which generates electrical energy for self-consumption and feed surplus energy in to the grid as per legislation of the country. Solar PV panels generates DC electric power when exposed in sun light. High efficiency MPPT PV inverter converts DC electric power in to AC electric power for consumption in load. Grid power supply is connected in parallel circuit with PV inverter AC output. Solar generated electric power has first priority for consumption in load and additional power can be retrieved from the grid supply if required. Solar energy system can be hybrid with diesel generator power for the operation as PV-diesal hybrid system. Solar energy system is useful for saving in electricity bill, saving in diesel fuel consumption and source of income by selling surplus energy to the grid.

PV System output :

6000 Wp	*Solar hybrid Kit PV Power*
28,8 kWh	*Energy generation per day (average)*
864 kWh	*Energy generation per month (average)*

Equipment and components list:

Quantity		*Description*
24	*250 Wp*	*Solar photovoltaic Si-polycrystalline panels*
2	*3,6 kW*	*Sunny boy Solar on-grid inverter*
24	*unit*	*Aluminium support structure for solar panels*
78	*m*	*DC cables 6mm R1000 PV panel to inverter*
5	*m*	*AC cable 2 core inverter to main breaker*
4	*pair*	*Solar connector MC4*
1	*set*	*Aluminium support structure installation tools*
1	*set*	*Instrcutions manual for installation*
1	*set*	*Electrical design layout*

SYSTEM WARRANTY:

Solar modules production:	25 years
Module support structure:	10 years
Inverters:	5 years standard, (extendible to 25 years)

Quality of Components:

All equipment and components in the kit are manufactured in EU with high quality CE standard.

Kits advantages

- Easy to organize the order through a unique code and provider.
- Compatibility between all components secured.
- Measurement of energy flows installation.
- CE highest quality components.
- Support structure with pre-design to facilitate plug & play mounting installation.

Function of the system

1. The load consume the solar energy produced by photovoltaic modules during the day hours time, plus the excess energy can be feed in to the grid as per legislation of the country.

2. The diesel generator connection is an other option when the load does not get enough solar energy, and there is instability in the grid supply network. In these situations the customer consumes energy from diesel generator.

Modular system

These systems are modular type and can be installed as per your space and requirement. You can ask for additional services as state-of-the-art designing, drawings, engineering and installation of your projects.

Solar kits with modular system can be extended to MW size projects

Solar Kit Applications:

- Schools
- Restaurants
- Gymnasium
- Gardens
- Markets
- Hospitals
- Resorts
- Service centres
- Multi story buildings
- Shopping malls
- Hotels
- Scout camps
- Petrol Stations
- Old houses
- Public service offices
- Parking Areas
- Electric vehicle charging stations
- Administration buildings

Additional Accessories

Ask for additional accessories for extension at your installation or shifting of your PV system to another place.

Installation Training Services

Training of installation is offered for technical persons on time to time basis. Schedule of the training session announce on web site.

Operation and maintenance services

Operation and maintenance services offered for the valued customers for efficient operation of the system. Customers may ask for O&M service contract with the company.

Monitoring services

In order to monitor solar power generation and consumption from PV system, data can be transmitted to remote locations. For communication between the solar inverter and monitoring devices, SITECNO provides two basic choices: Wireless or Blue-tooth and wired variants.

ANNUAL ENERGY PRODUCTION by SOLAR ENERGY KIT MODEL: SISMA-CS6000

(Annual global direct irradiation 2,97 kWh/m² in Madrid. Ref: source NASA-SSE

INSTALLATION APPLICATION

- Instant self-consumption system with feed in grid (on grid)
- Instant self-consumption system without feed in to the grid (on grid)
- Solar system hybrid with diesel generator (on grid)

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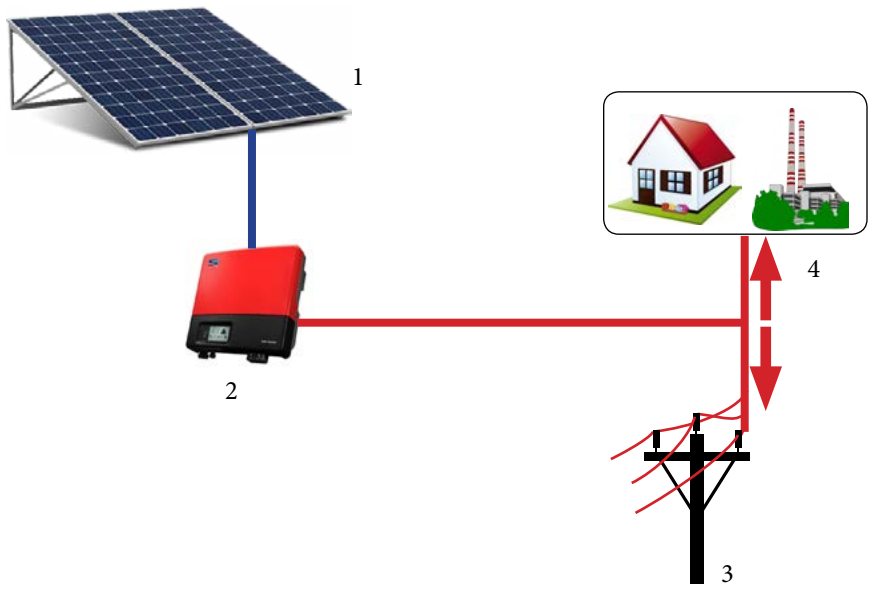
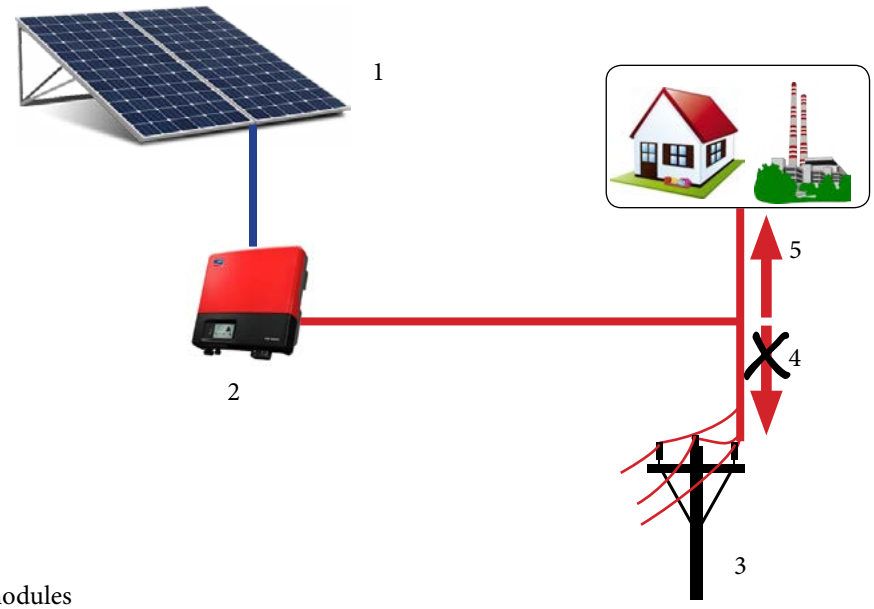
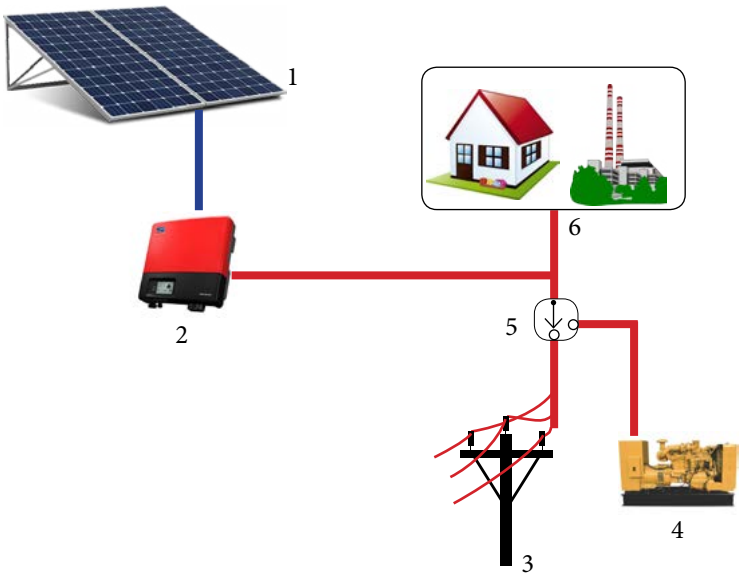




1. Photovoltaic modules
2. Inverter
3. Grid
4- Changeover switch
5. Consumption

INSTALLATION APPLICATION

- Solar system hybrid with diesel generator (on grid)



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4. Diesel generator
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Polycrystalline Solar Module 250W

SITECNO Solar Photovoltaic Panels stand for quality, durability and most importantly, high performance. Our experience, capacity of research, continuing development and improvement have turned us into a company recognized in the sector by the high value offered to our clients.

Due to their engineered hollow section frame and its 4mm special textured glass with AR coating, SITECNO modules meet the maximum demands with regard to stability and corrosion resistance.

Thanks to their high performance SITECNO modules are prepared for changes in legislation. These panels will produce 5% more than any other of the same features.

The performance warranty is for 25 years, after 12 years, modules still produce a minimum 90% of their nominal performance. After 25 years module still produce a minimum 80% of their nominal performance.

Electrical Characteristics:

MODEL	SI-60P250
Nominal Power (Pmax)	250W
Open Circuit Voltage (VOC)	37,5V
Short Circuit Current (ISC)	8,76A
Voltage at Nominal Power (Vmp)	30,3V
Current at Nominal Power (Imp)	8,24A
Module Efficiency (%)	15,20

Mechanical Characteristics:

Cell type	Polycrystalline156x156mm
Number of cells	60 (6x10)
Module dimension	1660 x 990 x 50mm
Weight	20kg
Front cover	TSG low-iron tempered glass
Frame	Aluminium alloy
Junction box	IP65, 3diodes
Cable length	1200mm (+) , 800mm(-)
Connector	PV-JM601

Temperature Coefficients:

Nominal Operating Cell Temperature (NOCT)	25°C ±2°C
Temperature Coefficients of Pmax	-0.43% / °K
Temperature Coefficients of Voc	-0.31% / °K
Temperature Coefficients of Isc	0.04% / °K
Operating Temperature	-40 °C to +85 °C
Maximum System Voltage	1000V DC
Reverse current load	15A

Due to the unique combination of components, the high-efficiency modules from SITECNO are particularly powerful. With the high efficiency, the SITECNO offers maximum performance compared to the small overall area required. This also means: less effort and less material for installation. This increase in efficiency and the long-term high energy yields of SITECNO ensure efficient operation of your photovoltaic system. The quality of SITECNO module is continuously tested and confirmed by independent institutes. SITECNO modules are stored with a positive power classification. The performance is guaranteed by SITECNO for 25 years, the product guarantee is 10 years.

SITECNO MODULE Polycrystalline

SITECNO MODULE Monocrystalline

SITECNO MODULE BIPV

CERTIFIED SAFETY FOR PRODUCTIVE DECADE

Damp-Heat Test IEC 61215
Result: The modules exceed the requirements by the factor of three in regard to environments with intense damp/heat.

Thermal Cycling Test IEC 61215
Result: The modules exceed the requirements in regard to temperature fluctuation and three times extended performance time.

Mechanical Load Test IEC 61215
Result: SITECNO PV-modules' structural engineering sustains above-average loads.

- Extensive quality management through production according to international quality and environmental standards as well as strict internal examinations.
- Consistently high cell quality through strict quality examinations by high-resolution electro-luminescence and infrared measurements.
- Strict quality examinations of the supplied components and each manufacturing step through optical and electronic test stations along the whole manufacturing line.
- 10 years product and 25 years performance guarantee
- Proper recycling and all sold modules through full membership in the PV Cycle association
- Intelligent and perfectly matched systems and services from the technical and economical plant layout up to the factory service
- Worldwide known and certified through VDE (IEC 61215 Ed.2, IEC 61730-1 Ed.1 and IEC 61730-2 Ed.1)

SUNNY BOY 3600TL

MORE EFFICIENT
THANKS TO ITS 750 V DC INPUT VOLTAGE
Electrifying detail: Thanks to the higher, 750 volt maximum DC input voltage, often times one less module string is needed because more modules can be switched on in a series.

- Highly flexible design reduces cabling requirements
- Maximum efficiency of 97 percent ensures top solar yield

MORE FLEXIBLE
THANKS TO MULTI-STRING TECHNOLOGY
Greater flexibility in planning, implementing and solar harvest: The advantages of multi-string technology in the new transformerless Sunny Boy are also available in the 3 kW model.

- Optimal yield in partial shading and efficient operation of east/west arrays
- Two MPP trackers with expandable OptiTrac®* Global Peak operational control
- Optional: Single Tracker for complex or simple roof structures or as an add-on to existing PV plants

EASIER
THANKS TO INNOVATIV MOUNTING CONCEPT
The wall mount has also been redesigned, and now allows you to attach the inverter easily by inserting it from above.

- Fast and professional attachment, even on walls that are not completely straight
- Popular anti-theft protection option available

UNIVERSALLY APPLICABLE
THANKS TO INTEGRATED GRID MANAGEMENT
Intelligent controls offer advantages in every situation: Thanks to its integrated grid management functions, the new Sunny Boy with Reactive Power Control offers universal deployment options and contributes to grid support.

- Fewer disconnections from the grid thanks to voltage reduction via reactive power
- Increased plant profitability

Input (DC)	
Max. DC power (@ cos φ = 1)	3880 W
Max. input voltage	750 V
MPP voltage range / rated input voltage	175 V ... 500 V / 400 V
Min. input voltage / initial input voltage	125 V / 150 V
Max. input current input A / input B	15 A / 15 A
Max. input current per string input A / input B	15 A / 15 A
Number of independent MPP inputs / strings per MPP input	2 / A:2; B:2

Output (AC)	
Rated power (@ 230 V, 50 Hz)	3680 W
Max. apparent AC power	3680 VA
Nominal AC voltage / range	220 V, 230 V,
AC power frequency / range	50 Hz, 60 Hz / -5 Hz … +5 Hz
Rated power frequency / rated grid voltage	50 Hz / 230 V

Max. output current	16 A
Power factor at rated power	1
Displacement power factor, adjustable	0.8 overexcited … 0.8 underexcited
Efficiency	
Max. efficiency / European weighted efficiency	97 % / 96.3 %
Protective devices	
DC disconnect device	●
Ground fault monitoring / grid monitoring	● / ○
DC reverse polarity protection /	
AC short-circuit current capability /	
galvanically isolated	● / ○ / -
All-pole-sensitive residual-current monitoring unit	●
Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1)	I/III

General data

Dimensions (W / H / D)	490 / 519 / 185 mm (19.3 / 20.4 / 7.3 inches)
Weight	26 kg (57.3 lb)
Operating temperature range	–25°C … +60°C (–13°F … +140°F)
Noise emission (typical)	25 dB(A)
Self-consumption (night)	1 W
Topology	Transformerless
Cooling concept	Convection
Degree of protection (according to IEC 60529)	IP65
Climatic category (according to IEC 60721-3-4)	4K4H
Maximum permissible value for relative humidity (non-condensing)	100%

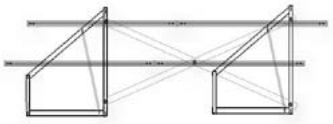
Features

DC connection / AC connection	SUNCLIX / Spring clamp terminal
Display	Graphic
Interface: RS485, Bluetooth, Speedwire/Webconnect	● / ○ / ○
Multi-function relay / Power Control Module	● / ○
Warranty: 5 / 10 / 15 / 20 / 25 years	● / ○ / ○ / ○
Certificates and approvals (additional on request)	AS 4777, C10/11, CE, CEI 0-21, EN 50438[1], G59/2, G83/1-1, IEC 61727, MEA4, NRS 097-2-1, PEA4, PPC, PPDS, RD1699, RD 661, UTE C15-712, VDE-AR-N 4105, VDE0126-1-1

● Standard features ○ Optional features — Not available, Data at nominal conditions

Kit Components

Design	***Modular type***
Technical feature	Aluminium
	10 years warranty
	Tamper proof nut bolt
	100% recyclable material
	A2 Stainless steel bolts
Weight	2,49kg/m
Loads	wind, snow
Test certificate	CE Certifies



Cable:

· Model:	SI-MC4-F
· Rated Voltage:	TUV 1500V DC / UL 600V DC
· Rating Current:	20-30A
· Cable Size:	2.5-4.0-6.0, 10-12-14AWG
· Proof Voltage:	TUV 1500V AC, 1 min
· Protection Class:	Class II
·· Temperature Range:	-40 to 85°c
· Flame class:	UL94-V0

Cable with connector

Connector:

Flexible conductor,	class 5
Maximum service temperature:	120°C
Estimated lifetime	30 years.
UV Resistant UV Resistant	
Grease & mineral oils resistance:	excellent
Grease & mineral oils resistance:	excellent

Cable connector MC4

Solar Energy Kit Order Code Configuration:

SISMA - E S 1500 - M

Model:	**Kit type:**	**AC output phase:**	**Total PV panel power (W):**	**Inverter type:**
SISMA	C complete kit	S 1 phase 220V	250 500 750 1000 1500	M Micro inverter
	E economic kit without aluminium support structure	T 3 phase 400V	2000 2500 25000	

Note: company has right to change in specification and design of the kit any time without notice.

Produce your own FREE energy

Your contribution for a sustainable earth and reduce CO2

ORDER REFERENCES NUMBER

REF.#	Model#	Description
15014	SISMA-ES6000	Complete plug and play without support structure
15114	SISMA-CS6000	Complete plug and play with all necessary components

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