

# SOLAR KIT MODEL: SEM-T90KA



**90000 Solar PV Hybrid Kit**  
**12960 kWh per month production**  
**432000Wh per day production**

<i>Quantity</i>	<i>Description</i>
<b>360</b>	<b>Solar panels 250W Polycrystalline</b>
<b>1</b>	<b>Solar Inverter Ingecone Sun 90</b>
<b>180</b>	<b>Support structure for solar panels</b>
<b>4</b>	<b>100m DC cables 1x5.6mm R1000 2 core PV panel to charge controller with thimble at ends</b>
<b>3</b>	<b>5m AC cable 1x5,6mm R1000 2 core inverter to main breaker with thimble at ends</b>
<b>1</b>	<b>1 installation tool kit</b>

## **SYSTEM WARRANTY\*:**

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

## **Quality of Components:**

Manufactured in EU.  
All components in the kit are high quality with CE standard

## **Description**

SITECNO solar kits for hybrid system with diesel generator, batteries and grid are complete solutions which also provide energy in all unforeseen situations that may lead either by time, by circumstances of outage and any situation. It is a complete solution for saving your energy costs and fuel.

## **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 pre (Combiner Box) enclosures configured to facilitate mounting installation.
- Possibility of dimensioning variants references listed kits for other power settings (on request)

### ***Function of the system***

1. The place uses the solar energy produced by photovoltaic modules during the hours of sun, plus the excess energy store in the batteries.
2. The diesel generator is the last option when the load does not get solar energy, and there is load shedding in the grid. In these situations the location consumes energy from diesel generator.

### ***Modular system***

These systems are module 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 projects

### ***Solar Kit Applications:***

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

### ***Additional Accessories***

You can ask for additional accessories for extension at your installation or shifting of your 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 the O&M service contract with the company.

### ***Monitoring services***

In order to monitor solar power systems, 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.



# 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-P60-250
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	Polycrystalline 156x156mm
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, 3 diodes
Cable length	1200mm (+) , 800mm(-)
Connector	PV-JM601



## Temperature Coefficients:

Nominal Operating Cell Temperature	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



# SUN Power 90 kW with transformer

Three phase inverter for medium and large power outputs on-roof applications and also for ground-based multi-megawatt applications

## Maximum efficiency at high temperatures

Advanced maximum power point tracker system (MPPT). Low voltage ride through capability, active power control and reactive power control. Suitable for medium voltage installations

## Easy to install

No additional items are required. Manual disconnection from the grid. Complete electrical protection equipment supplied as standard.

## Easy to maintain

Internal data logger for up to 3 months data storage. Control from either a remote PC or on-site from the inverter front key pad. Status and alarm LED indicators. LCD Screen. Useful life of more than 20 years.



## Software included

Included at no extra cost are the SUN Manager, SUN Monitor and its Sun Monitor smart phone version for monitoring and recording the inverter data over the internet.

- **Standard 5 year warranty, extendable for up to 25 years**

The SUN Power three-phase inverters offer rated capacities from 50 to 250 kW and are designed for installation on large-scale industrial rooftops and also ground-based PV plants. The SUN100 is the PV inverter with the highest efficiency level of the whole market in its power range (98.9%).

Designed for ease of maintenance, offering high performance at high temperatures and featuring full electrical protections as a standard supply, this inverter family is one of the most popular among the SUN range.

## PROTECTIONS

- Galvanic isolation between the DC and AC side.
- Reverse polarity.
- Output short-circuits and overloads.
- Insulation failures.
- Anti-islanding with automatic disconnection.
- DC switch.
- DC fuses.
- AC circuit breaker.
- DC and AC surge arresters type 2.

## OPTIONAL ACCESSORIES

- Inter-inverter communication via RS-485, Ethernet or Bluetooth.
- GSM / GPRS remote communication.
- PV array string current monitoring. SUN String Control.
- Grounding kit if required for the PV modules.



### **Input (DC)**

Recommended PV array power range <sup>(1)</sup>	90 - 117 kWp
Voltage range MPP	405 - 750 V
Maximum voltage <sup>(2)</sup>	900 V
Maximum current	234 A
Inputs	4
MPPT	1

### **Output (AC)**

Rated power <sup>(3)</sup>	99 kW
Maximum current	161 A
Rated voltage	400 V
Frequency	50 / 60 Hz
Phi Cosine <sup>(4)</sup>	1
Phi Cosine adjustable	Yes. Smax=110 kVA
THD <sup>(5)</sup>	<3%

### **Efficiency**

Maximum efficiency	96.8%
Euro-efficiency	95%

### **General Information**

Refrigeration system	Forced ventilation
Air flow	2600 m <sup>3</sup> /h
Stand-by consumption <sup>(6)</sup>	30 W
Consumption at night	1 W
Ambient temperature	-25 °C to 65 °C
Relative humidity (non-condensing)	0 - 95%
Protection class	IP20
Marking	CE
EMC and security standards	

EN 61000-6-1, EN 61000-6-2, EN 61000-6-4, EN 61000-3-11, EN 61000-3-12, EN 62109-1, EN 62109-2, IEC62103, EN 50178, FCC Part 15, AS3100

### Grid connection standards

IEC 62116, RD1699/2011, DIN V VDE V 0126-1-1, CEI 0-16 Ed. III, CEI 0-21, G59/2, VDE-AR-N 4105:2011-08, BDEW-Mittelspannungsrichtlinie:2011, P.O.12.3, South African Grid code, Chilean Grid Code, Romanian Grid Code, IEEE929, Thailand MEA & PEA requirements, IEC61727, UNE 206007-1, ABNT NBR 16149, ABNT NBR 16150, CGC China, DEWA (Dubai) Grid Code, Jordan Grid Code

**Notes:** 1) Depending on the type of installation and geographical location (2) Must not be exceeded under any circumstances. Consider the voltage increase of the 'Voc' at low temperatures (3) AC Power for 40 °C ambient temperature. For each °C of increase, the output power will be reduced at the rate of 1.8% (4) For Pout>25% of the rated power (5) For Pout>25% of the rated power and voltage in accordance with IEC 61000-3-4 (6) Consumption from PV field.



Technical feature

Aluminium  
25 years warranty  
Tamper proof nut bolt  
100% recyclable material  
A2 Stainless steel bolts  
2,49kg/m  
wind, snow  
CE Certifies

Weight

Loads

Test certificate

**Cable:**

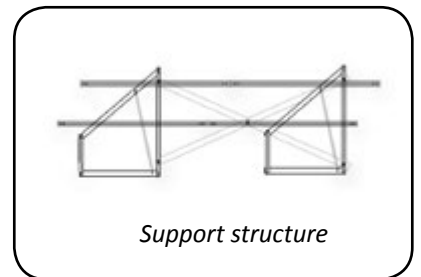
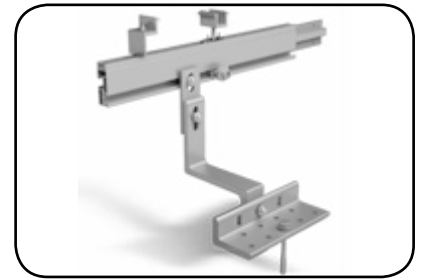
- Model:
- Rated Voltage:
- Rating Current:
- Cable Size:
- Proof Voltage:
- Protection Class:
- Temperature Range:
- Flame class:

SI-MC4-F  
TUV 1500V DC / UL 600V DC  
20-30A  
2.5-4.0-6.0, 10-12-14AWG  
TUV 1500V AC, 1 min  
Class II  
-40 to 85°C  
UL94-V0

**Connector:**

Flexible conductor,  
Maximum service temperature:  
Estimated lifetime  
UV Resistant UV Resistant  
Grease & mineral oils resistance:  
Grease & mineral oils resistance:

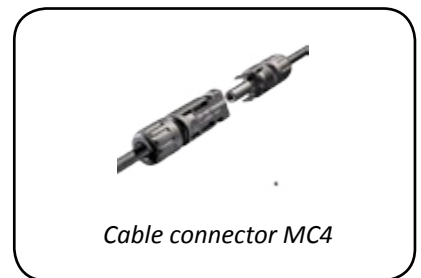
class 5  
120°C  
30 years.  
excellent  
excellent



Support structure



Cable with connector



Cable connector MC4



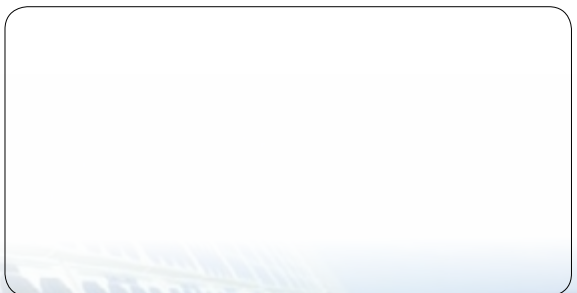
## INSTALLATION APPLICATION

- 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)





*Authorised distributor:*



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