



**Your Partner in Industrial Lighting and Solar Power Solutions.**

D.O.E. accredited supplier under R.A.9513 or Renewable Energy Act of 2008

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**Bandacorp Solar Inc.**

*Make it Happen!*

# About Us

Tracing its roots back to parent company Bandacorp PI Inc., BandaSolar was formed to meet the growing demand for solar solutions. The Banda group of companies was established in the environmentally protected green zone of Subic Bay Freeport Zone in 2006. We design and supply equipment for solar powered systems for commercial, government, industrial, and residential customers. Our company partners only with carefully selected reputable manufacturers to ensure the high quality of the products we offer to our valued customers.

BandaSolar addresses the global concerns of rising energy costs and environmental protection through our developments in the use of solar energy. It is our belief that the energy choices we make today will profoundly impact the future of life on our planet. Solar power is an effective, proven alternative to traditional utility power, and for many locations around the world it is one of the only alternatives.

Providing custom solar solutions from remote power systems, to commercial grade solar powered lighting, to water heating using solar technology, BandaSolar wants to be the source for all of your renewable energy needs.

**Company TIN No.: 007 - 957 - 231 - 000**

**SEC Registration No.: CS201100350**

**DOE Accreditation No.: RE - SW2012 - 12 - 004 - 00**

**PhilGEPS Certificate No.: 2013 - 88321 / 2013020016340**



# Mission / Vision

## **MISSION:**

To be the most competitive local manufacturer, fabricator, assembler and supplier of solar powered products to the Philippine solar industry by supplying the contractors and installers of solar solutions.

## **VISION:**

Providing custom solar solutions to installers from remote power systems, to commercial grade solar powered lighting, to water heating and refrigeration systems using solar technology, BandaSolar wants to be the source for all of your renewable energy needs while promoting the Renewable Energy economy in the Philippines.



# Portable Solar Home Kits

## 5w Portable Solar Home Kit



- 1pc. Solar panel :  
(5w Monocrystalline)
- 2pcs. Lamps: 3w 12v LED Bulb
- 1pc. Battery: 12v 5AH AGM Paste
- 1pc. Mobile Charger Connector
- 2pcs. Wires & Sockets for LED Bulbs
- 1pc Controller Box

## 10w Portable Solar Home Kit



- 1pc. Solar panel :  
(10w Monocrystalline)
- 2pcs. Lamps: 3w 12v LED Bulb
- 1pc. Battery: 12v 9AH AGM Paste
- 1pc. Mobile Charger Connector
- 2pcs. Wires & Sockets for LED Bulbs
- 1pc Controller Box

## 15w Portable Solar Home Kit



- 1pc. Solar panel :  
(15w Monocrystalline)
- 2pcs. Lamps: 3w 12v LED Bulb
- 1pc. Battery: 12v 17AH AGM Paste
- 1pc. Mobile Charger Connector
- 2pcs. Wires & Sockets for LED Bulbs
- 1pc Controller Box

## 20w Portable Solar Home Kit



- 1pc. Solar panel :  
(20w Monocrystalline)
- 1pc. Fan: 12" DC Table Fan  
with 3 Wind Speed
- 2pcs. Lamps: 3w 12v LED Bulb
- 1pc. Battery: 12v 20AH AGM Paste
- 1pc. Mobile Charger Connector
- 2pcs. Wires & Sockets for LED Bulbs
- 1pc Controller Box

## 40w Portable Solar Home Kit



- 1pc. Solar panel :  
(40w Monocrystalline)
- 1pc. Fan: 12" DC Table Fan  
with 3 Wind Speed
- 2pcs. Lamps: 3w 12v LED Bulb
- 1pc. Battery: 12v 38AH AGM Paste
- 1pc. Mobile Charger Connector
- 2pcs. Wires & Sockets for LED Bulbs
- 1pc Controller Box

## No More BROWNOUTS!

*Charge your phones,  
provide lights and  
beat the heat  
anytime & anywhere*

**NOTE:**Over discharge and over charge protection  
by controller indicative light for charging.

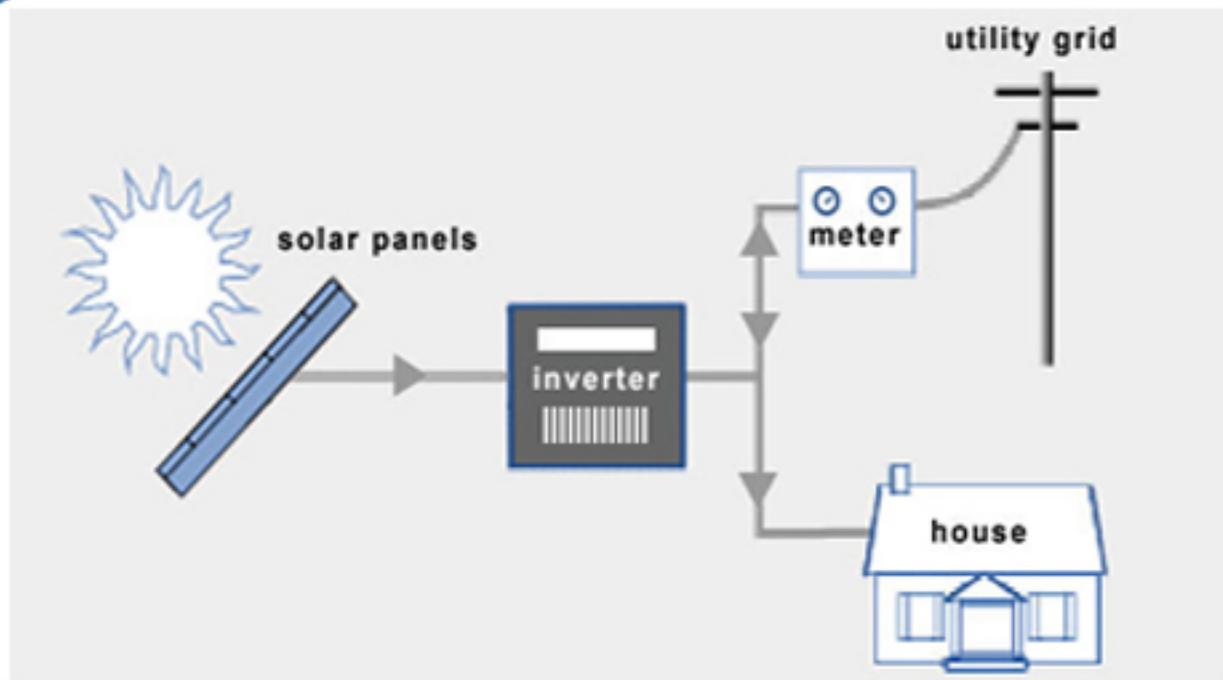
Can be charge by the AC Power or by the Solar Panel



**PORTABLE KITS**

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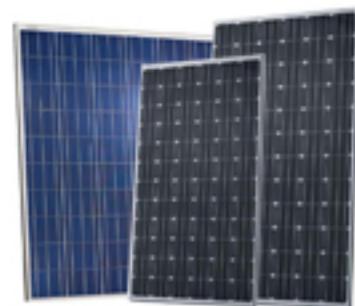
# Grid - Tied Solar Power Station



An On Grid or Utility Connected Solar PV System is the most common type of solar PV system.

Grid-tied systems are connected to the electrical grid, and allow users to use solar energy as well as electricity from the grid. Grid-tied systems do not need to produce 100% of the electricity needed. When there is no demand for energy, the solar panels send excess electricity back out into the grid for net metering.

## COMPONENTS:



Solar Panels

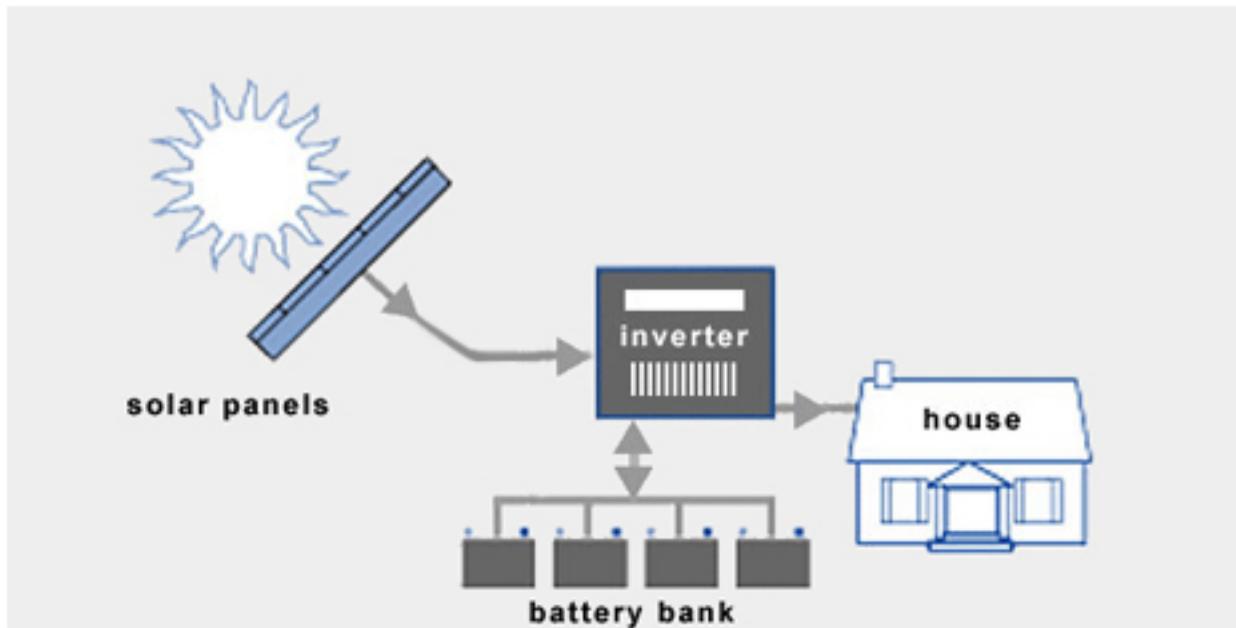


Combiner Box



Inverter

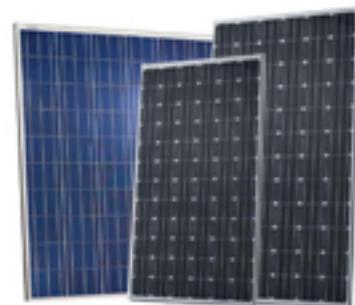
# OFF - Grid Solar Power Station



An Off Grid or Stand Alone Solar PV System which do not tie into the power grid, requires that the solar panels are able to produce enough electricity to cover 100% of the energy needed.

Most homes have higher demand at night, so Off Grid Systems usually incorporate batteries. Off Grid Systems are most common on remote locations without utility service.

## COMPONENTS:



Solar Panels



Combiner Box



Inverter



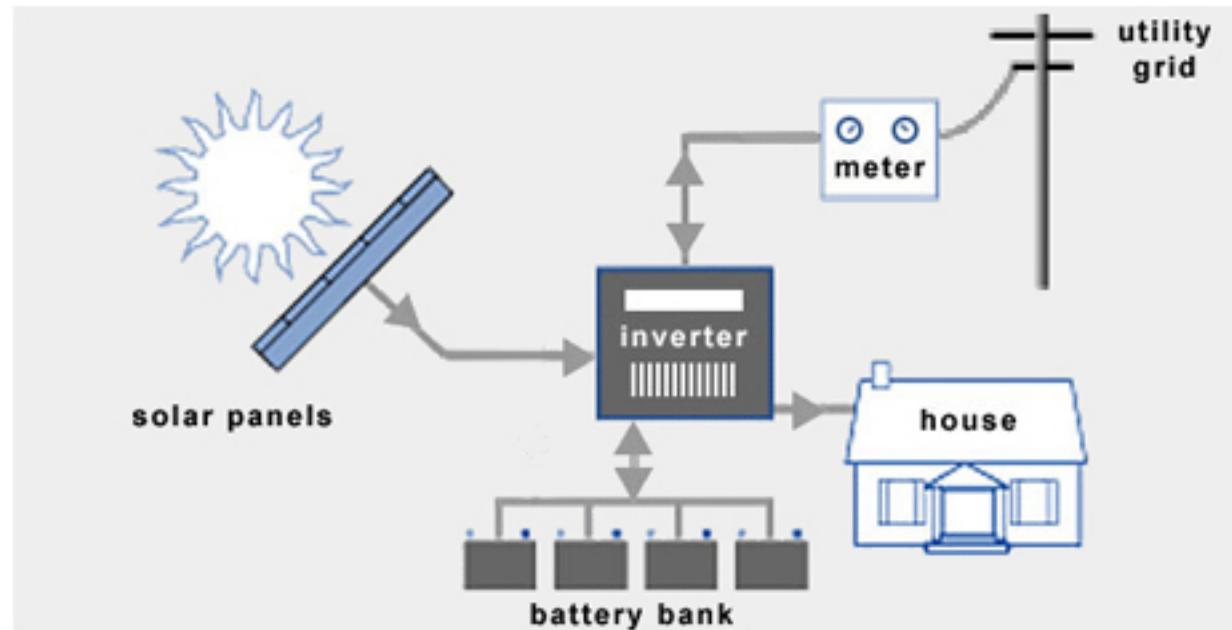
Distribution Box



Batteries

# Smart Grid Solar Power Station

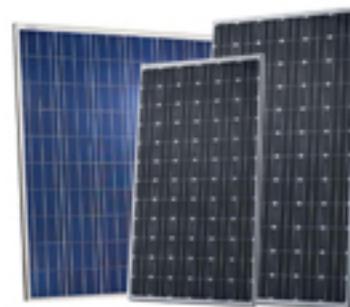
On and Off Grid



A Smart or On/Off Grid Solar PV System combines the best from Grid-tied and Off Grid solar systems.

These systems can either be described as Off Grid solar with utility backup power, or Grid-tied solar with extra battery storage. Smart solar holds a lot of promise. The concept will become increasingly important as we transition towards the Smart Grid in the coming years.

## COMPONENTS:



Solar Panels



Combiner Box



Inverter



Batteries

# Solar Street Lights

## 15w Solar Street Light



15w COB Street Light  
50-60w PV panel  
50-55AH Battery  
5-10a solar controller  
Features:  
Battery on top,  
controller and driver  
in light head,  
no wires in pole

## 30w Solar Street Light



30w COB Street Light  
110-130w PV panel  
100-110AH Battery  
10a solar controller  
Features:  
Battery on top,  
controller and driver  
in light head,  
no wires in pole

## 60w Solar Street Light



60w COB Street Light  
200-240w PV panel  
200AH Battery  
10a solar controller  
Features:  
Battery on top,  
controller and driver  
in light head,  
no wires in pole

System Design:  
8 hrs per day,  
3-4 days battery back up  
Upto 4 rainy days battery reserve

**Designed and  
Fabricated by:  
BANDASOLAR**

System Components:  
- LED Lamp  
- Solar Panel  
- Battery  
- Controller  
- Pole (optional)

All lights can be  
customized to your  
requirements!

• Specification and Features are subject to change.



**SOLAR STREET LIGHTS**

# Solar Flood Lights

## 10w Solar Flood Light



10w COB Flood Light  
40w PV panel  
38AH Battery  
5-10a solar controller  
Features:  
Battery on top,  
controller and driver  
in light head,  
no wires in pole

## 20w Solar Flood Light



20w COB Flood Light  
80w PV panel  
50-55AH Battery  
5-10a solar controller  
Features:  
Battery on top,  
controller and driver  
in light head,  
no wires in pole

## 30w Solar Flood Light



30w COB Flood Light  
110-130w PV panel  
100-110AH Battery  
10a solar controller  
Features:  
Battery on top,  
controller and driver  
in light head,  
no wires in pole

System Design:  
8 hrs per day,  
3-4 days battery back up  
Upto 4 rainy days battery reserve

**Designed and  
Fabricated by:  
BANDASOLAR**

System Components:  
-LED Lamp  
-Solar Panel  
-Battery  
-Controller  
-Pole (optional)

All lights can be  
customized to your  
requirements!



• Specification and Features are subject to change.

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**SOLAR STREET LIGHTS**

# Solar Path Lights

## Single Arm Solar Path Lights



5w LED Bulb  
35-40w PV panel  
38AH Battery  
5A solar controller  
Features:  
Battery on top,  
controller and driver  
in light head,  
no wires in pole

System Design:  
8 hrs per day,  
3-4 days battery back up  
Upto 4 rainy days battery reserve

**Designed and  
Fabricated by:  
BANDASOLAR**

## System Components:

- LED Lamp
- Solar Panel
- Battery
- Controller
- Pole (optional)

All lights can be  
customized to your  
requirements!

- Specification and Features are subject to change.

## Double Arm Solar Path Lights



5w\*2pcs LED Bulb  
60w PV panel  
55AH Battery  
10A solar controller  
Features:  
Battery on top,  
controller and driver  
in light head,  
no wires in pole

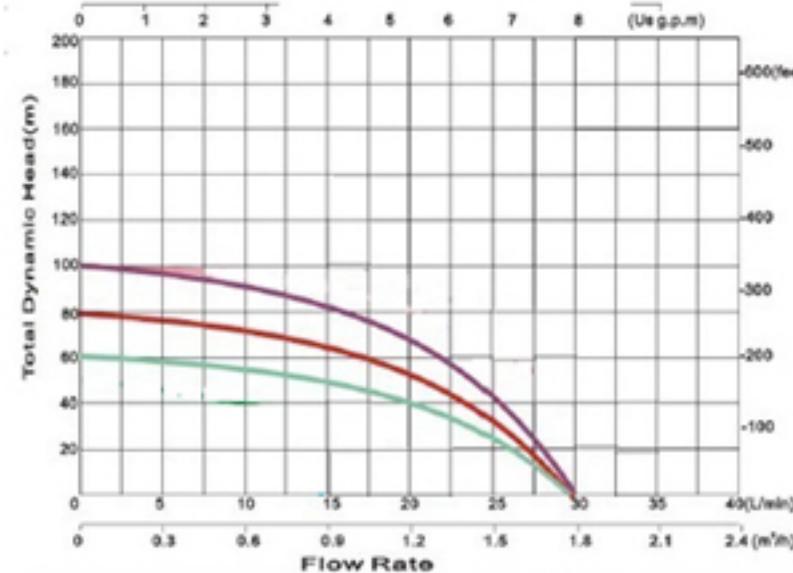


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**SOLAR STREET LIGHTS**

# Solar Water Pump

3 inches screw Pump



## DC Solar Pump

Motor filled with OIL

Max immersible depth: 40m



Performance:  
30 Liters per  
MINUTE!!!

### PUMP PERFORMANCE

VOLTAGE (v)	POWER (w)	MAX FLOW (m3/h)	MAX HEAD (m)	OUTLET (inch)	DIAMETER (mm)
36	270	1.8	100	0.75*	76

### ACCESSORIES:

1. Pump Controller
2. Screw
3. Water Level Sensor
4. Cable For Solar Panel: 6m
5. Cable Connector

### MATERIAL OF PARTS

Outlet: stainless steel  
Pump body: stainless steel  
Motor body: stainless steel  
Screw: stainless steel  
Bearing: NSK



Screw

Cable Connector

Water level sensor

Cable for solar panel

# SOLAR PANELS

Solar  
**JinKO**



## KEY FEATURES

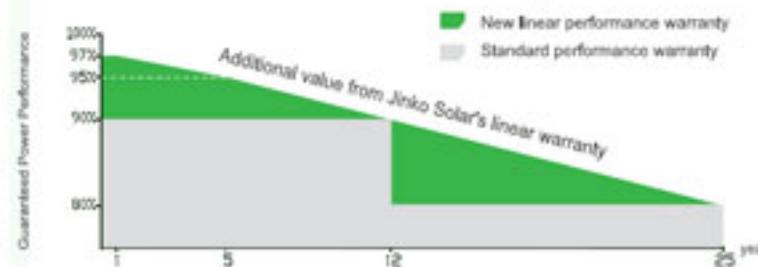
-  High module conversion efficiency (up to 16.19%), through superior manufacturing technology
-  Anti-reflective coating improves light absorption and reduces surface dust
-  Excellent performance in low-light irradiance environment
-  Entire module certified to withstand high wind loads (2400 Pascal) and snow loads (5400 Pascal)
-  High salt mist and ammonia resistance
-  Perfect module self-cleaning capability, reduce power loss caused by dust (soiling effect)
-  More elegant cell and module appearance



## QUALITY & SAFETY

- Positive power tolerance of  $-0/+3\%$  \*
- 10 year warranty on material & workmanship \*
- Industry leading power output warranty (12 years/90%, 25 years/80%)
- Premium linear performance warranty \*

### Premium Performance Warranty



\* Based on customer requirements and contract terms

## APPLICATIONS



On-grid residential roof-tops



On-grid commercial/Industrial roof-tops



Solar power plants



Off-grid systems



# SOLAR PANELS

# MONOCRYSTALLINE Solar Panels



## Mechanical Characteristics

Cell Type	Mono-crystalline 156×156mm (6 inch)
No.of cells	60 (6×10)
Dimensions	1650×992×40mm (65.00×39.05×1.57 inch)
Weight	18.5 kg (40.8 lbs)
Front Glass	3.2mm, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP67 Rated
Output Cables	TÜV 1×4.0mm <sup>2</sup> Length:900mm



## SPECIFICATIONS

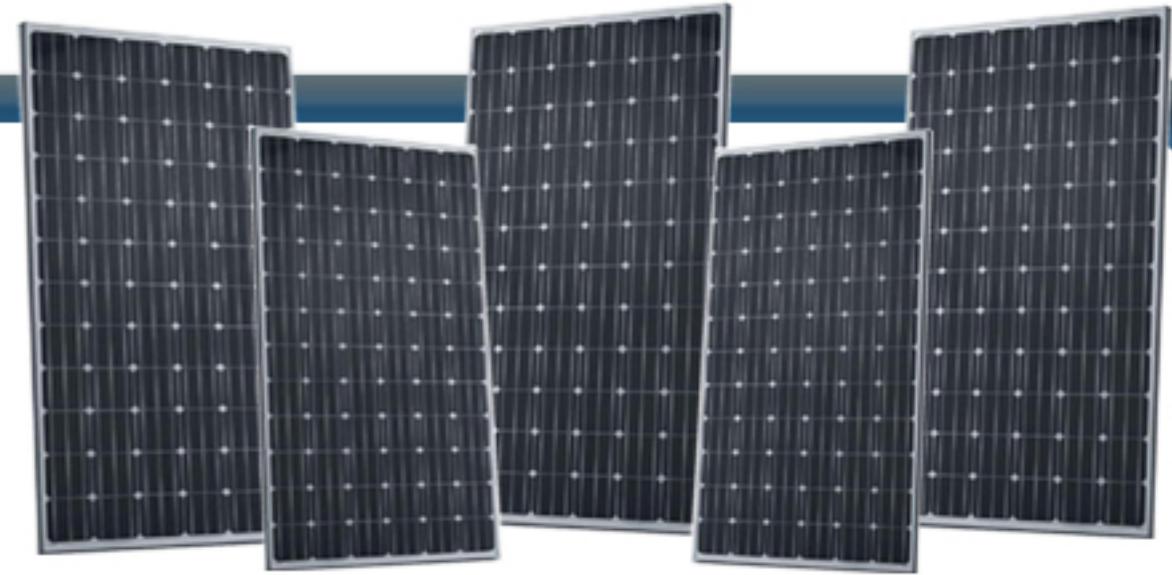
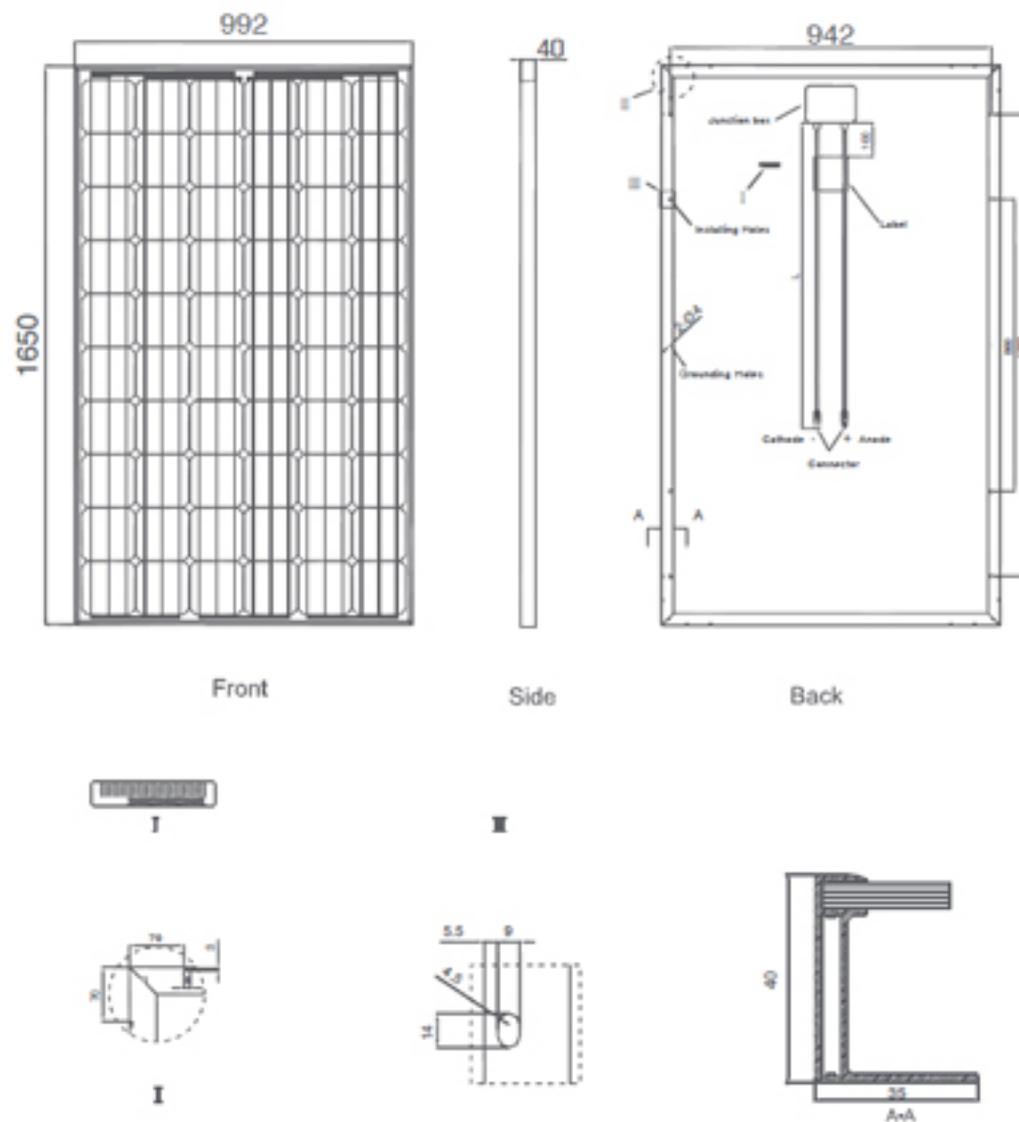
Module Type	JKM250M		JKM255M		JKM260M		JKM265M		JKM270M	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	250Wp	185Wp	255Wp	189Wp	260Wp	193Wp	265Wp	197Wp	270Wp	201Wp
Maximum Power Voltage (Vmp)	30.6V	28.4V	30.8V	28.6V	30.9V	28.7V	31.2V	29.0V	31.4V	29.3V
Maximum Power Current (Imp)	8.17A	6.51A	8.28A	6.60A	8.42A	6.71A	8.50A	6.78A	8.60A	6.85A
Open-circuit Voltage (Voc)	37.6V	34.8V	37.8V	35.0V	37.9V	35.1V	38.2V	35.4V	38.4V	35.6V
Short-circuit Current (Isc)	8.70A	7.02A	8.96A	7.21A	9.10A	7.32A	9.19A	7.39A	9.28A	7.45A
Module Efficiency STC (%)	15.27%		15.58%		15.89%		16.19%		16.50%	
Operating Temperature(°C)	-40°C~+85°C									
Maximum system voltage	1000VDC (IEC)									
Maximum series fuse rating	15A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.40%/°C									
Temperature coefficients of Voc	-0.29%/°C									
Temperature coefficients of Isc	0.05%/°C									
Nominal operating cell temperature (NOCT)	45±2°C									

**SOLAR PANELS**



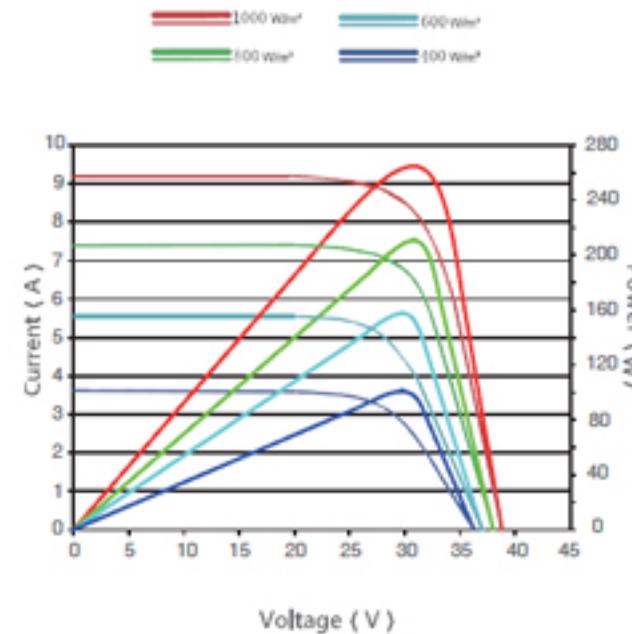
# MONOCRYSTALLINE Solar Panels

## Engineering Drawings

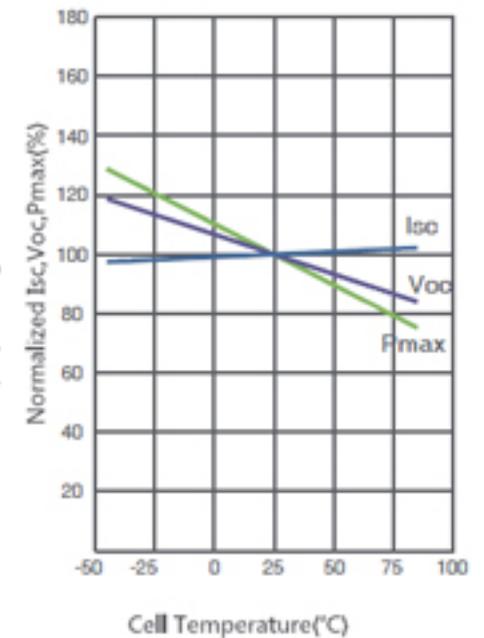


## Electrical Performance & Temperature Dependence

Current-Voltage & Power-Voltage Curves (265W)



Temperature Dependence of  $I_{sc}$ ,  $V_{oc}$ ,  $P_{max}$



# POLYCRYSTALLINE Solar Panels



## Mechanical Characteristics

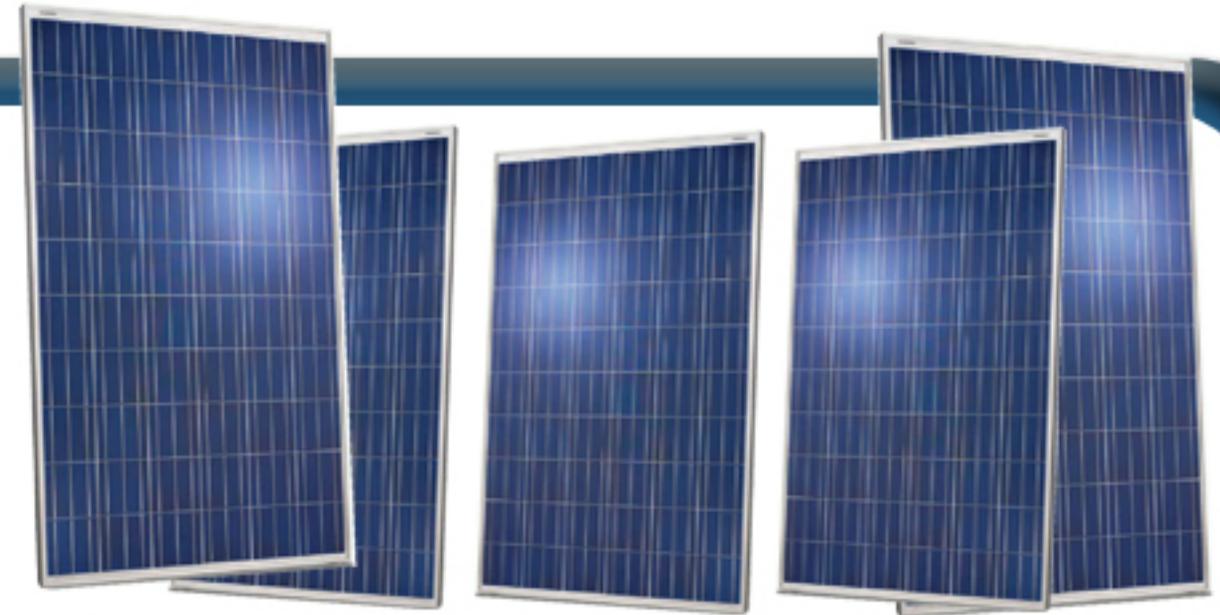
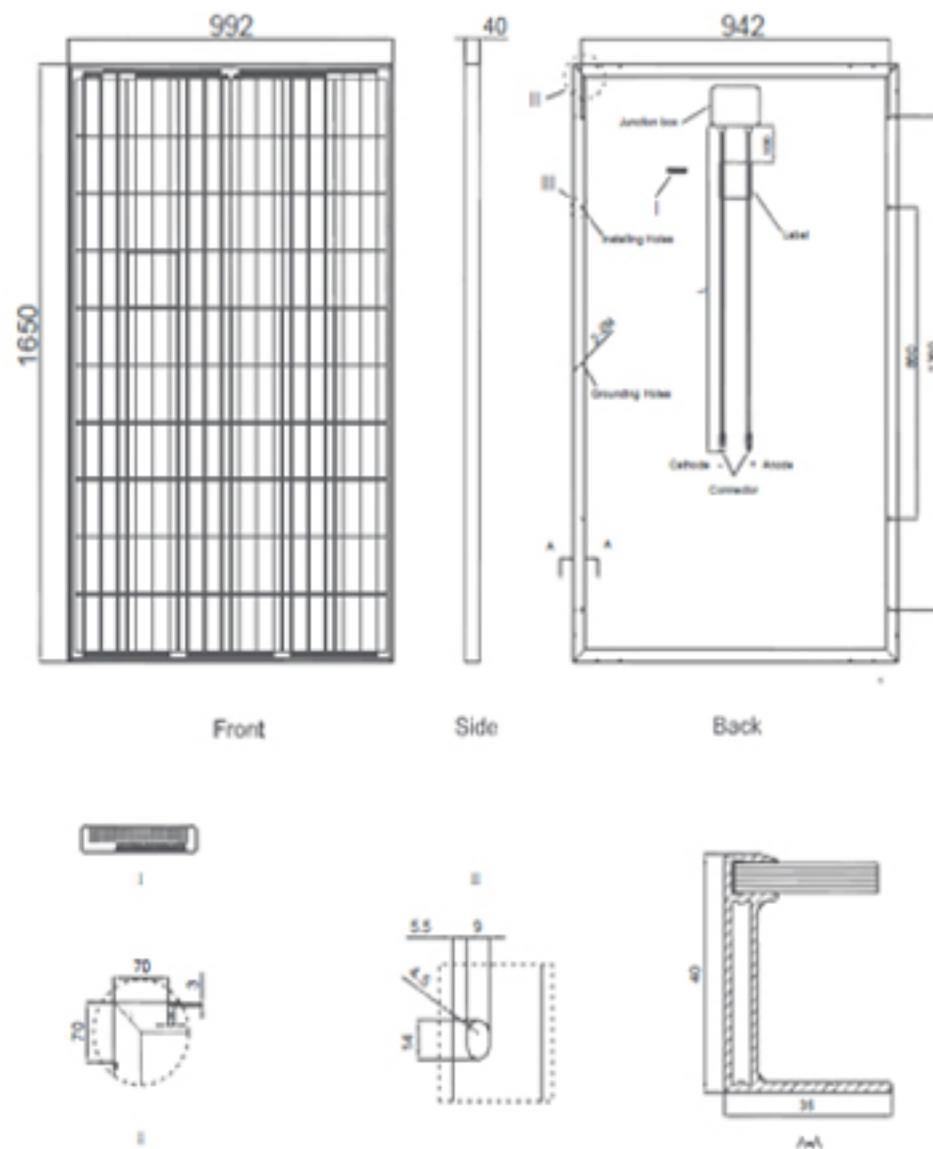
Cell Type	Poly-crystalline 156×156mm (6 inch)
No.of cells	60 (6×10)
Dimensions	1650×992×40mm (65.00×39.05×1.57 inch)
Weight	18.5 kg (40.8 lbs)
Front Glass	3.2mm, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP67 Rated
Output Cables	TÜV 1×4.0mm <sup>2</sup> , Length:900mm

## SPECIFICATIONS

Module Type	JKM245P		JKM250P		JKM255P		JKM260P		JKM265P	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	245Wp	181Wp	250Wp	184Wp	255Wp	189 Wp	260Wp	193Wp	265Wp	197Wp
Maximum Power Voltage (Vmp)	30.1V	27.8V	30.5V	28.0V	30.8V	28.5V	31.1V	28.7V	31.4V	29.0V
Maximum Power Current (Imp)	8.14A	6.50A	8.20A	6.56A	8.28A	6.63A	8.37A	6.71A	8.44A	6.78A
Open-circuit Voltage (Voc)	37.5V	34.8V	37.7V	34.9V	38.0V	35.2V	38.1V	35.2V	38.6V	35.3V
Short-circuit Current (Isc)	8.76A	7.16A	8.85A	7.21A	8.92A	7.26A	8.98A	7.31A	9.03A	7.36A
Module Efficiency STC (%)	14.97%		15.27%		15.58%		15.89%		16.19%	
Operating Temperature(°C)	-40°C~+85°C									
Maximum system voltage	1000VDC (IEC)									
Maximum series fuse rating	15A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.41%/°C									
Temperature coefficients of Voc	-0.31%/°C									
Temperature coefficients of Isc	0.06%/°C									
Nominal operating cell temperature (NOCT)	45±2°C									

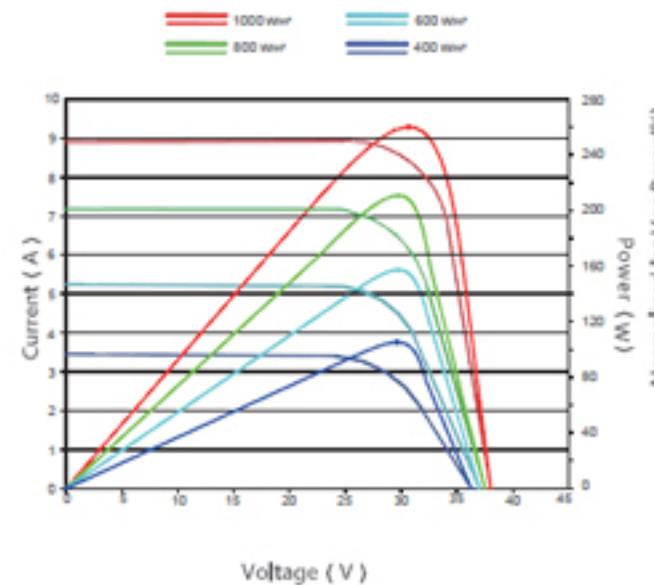
# POLYCRYSTALLINE Solar Panels

## Engineering Drawings

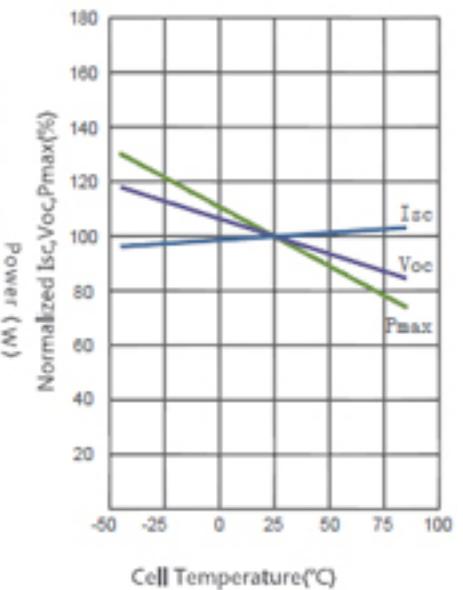


## Electrical Performance & Temperature Dependence

Current-Voltage & Power-Voltage Curves (260W)



Temperature Dependence of Isc, Voc, Pmax



# SOLAR PANELS

## 40watt Monocrystalline Panels

### Specifications:

Cell Type:	Monocrystalline Silicon Solar Cell
No. of Cell:	12(3*4)
Dimension:	512*690*30mm
Weight:	4.5 Kg
Front glass:	3.2mm High Transmission, Tempered Glass
Frame:	Anodized Aluminum Alloy
Junction Box:	IP65 Rated
Output cables:	TUV 1x4mm <sup>2</sup> at 900mm

### Electrical Characteristics:

Maximum power at STC (P <sub>MAX</sub> ):	40W
Open Circuit Voltage (VOC):	21.40V
Short Circuit Current I <sub>sc</sub> :	2.51A
Voltage at P <sub>max</sub> (V <sub>MP</sub> ):	17.5V
Current at P <sub>max</sub> (I <sub>MP</sub> ):	2.29A

### Limits:

Maximum System Voltage:	700V
Operating Temperature:	-40~+85°C

**Also Available in Polycrystalline!**



# SOLAR PANELS

## 60watt Monocrystalline Panels

### Specifications:

Cell Type:	Monocrystalline Silicon Solar Cell
No. of Cell:	18(4*4.5)
Dimension:	512*992*35mm
Weight:	5.9 Kg
Front glass:	3.2mm High Transmission, Tempered Glass
Frame:	Anodized Aluminum Alloy
Junction Box:	IP65 Rated
Output cables:	TUV 1x4mm <sup>2</sup> at 900mm

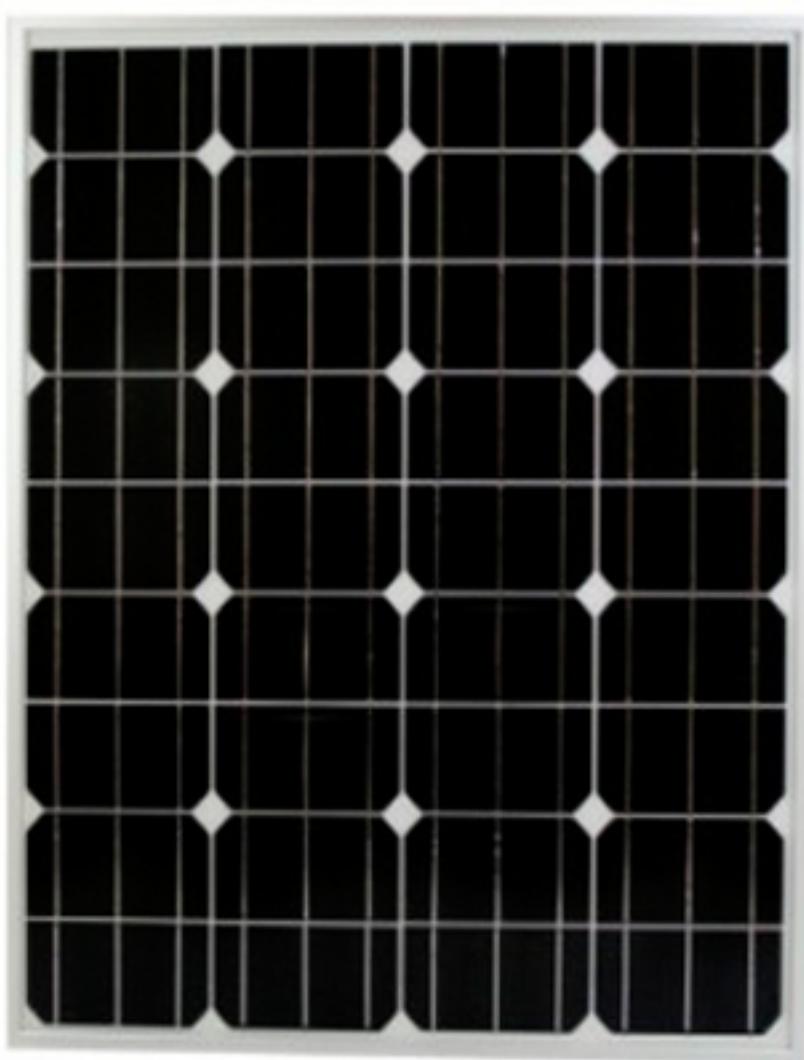
### Electrical Characteristics:

Maximum power at STC (P <sub>MAX</sub> ):	60W
Open Circuit Voltage (VOC):	20.16V
Short Circuit Current I <sub>sc</sub> :	3.90A
Voltage at P <sub>max</sub> (V <sub>MP</sub> ):	17.40V
Current at P <sub>max</sub> (I <sub>MP</sub> ):	3.45A

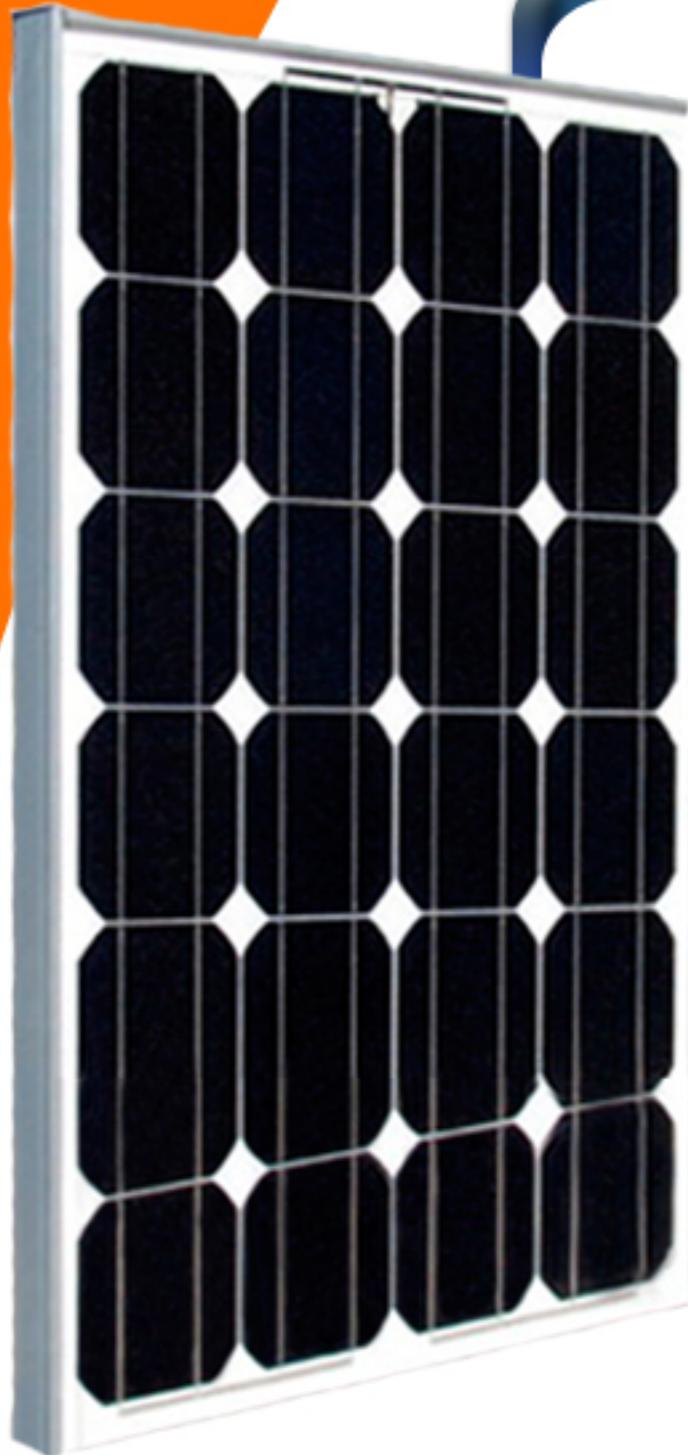
### Limits:

Maximum System Voltage:	700V
Operating Temperature:	-40~+85°C

**Also Available in Polycrystalline!**



# SOLAR PANELS



## 80watt Monocrystalline Panels

### Specifications:

Cell Type:	Monocrystalline Silicon Solar Cell
No. of Cell:	18(3*6)
Dimension:	512*992*35mm
Weight:	6 Kg
Front glass:	3.2mm High Transmission, Tempered Glass
Frame:	Anodized Aluminum Alloy
Junction Box:	IP65 Rated
Output cables:	TUV 1x4mm <sup>2</sup> at 900mm

### Electrical Characteristics:

Maximum power at STC (P <sub>MAX</sub> ):	80W
Open Circuit Voltage (VOC):	20.16V
Short Circuit Current I <sub>sc</sub> :	4.98A
Voltage at P <sub>max</sub> (V <sub>MP</sub> ):	18.00V
Current at P <sub>max</sub> (I <sub>MP</sub> ):	4.45A

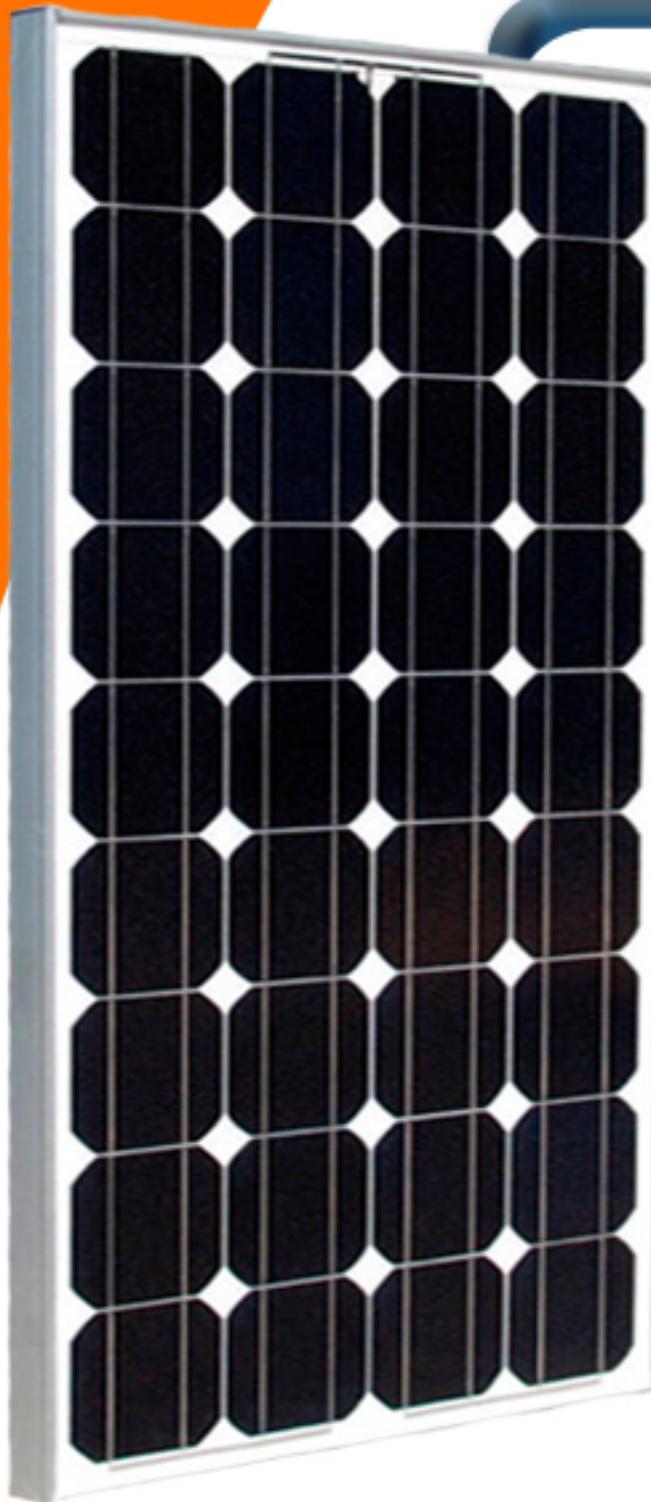
### Limits:

Maximum System Voltage:	1000V
Operating Temperature:	-40~+85°C

**Also Available in Polycrystalline!**



# SOLAR PANELS



## 100watt Monocrystalline Panels

### Specifications:

Cell Type:	Monocrystalline Silicon Solar Cell
No. of Cell:	36(4*9)
Dimension:	540*1190*35mm
Weight:	8.2 Kg
Front glass:	3.2mm High Transmission, Tempered Glass
Frame:	Anodized Aluminum Alloy
Junction Box:	IP65 Rated
Output cables:	TUV 1x4mm <sup>2</sup> at 900mm

### Electrical Characteristics:

Maximum power at STC (P <sub>MAX</sub> ):	100W
Open Circuit Voltage (VOC):	22.6V
Short Circuit Current I <sub>sc</sub> :	6.18A
Voltage at P <sub>max</sub> (V <sub>MP</sub> ):	18.00V
Current at P <sub>max</sub> (I <sub>MP</sub> ):	5.55A

### Limits:

Maximum System Voltage:	700V
Operating Temperature:	-40~+85°C

**Also Available in Polycrystalline!**



# SOLAR PANELS

## 120watt Monocrystalline Panels

### Specifications:

Cell Type:	Monocrystalline Silicon Solar Cell
No. of Cell:	36(4*9)
Dimension:	670*1480*35mm
Weight:	12 Kg
Front glass:	3.2mm High Transmission, Tempered Glass
Frame:	Anodized Aluminum Alloy
Junction Box:	IP65 Rated
Output cables:	TUV 1x4mm <sup>2</sup> at 900mm

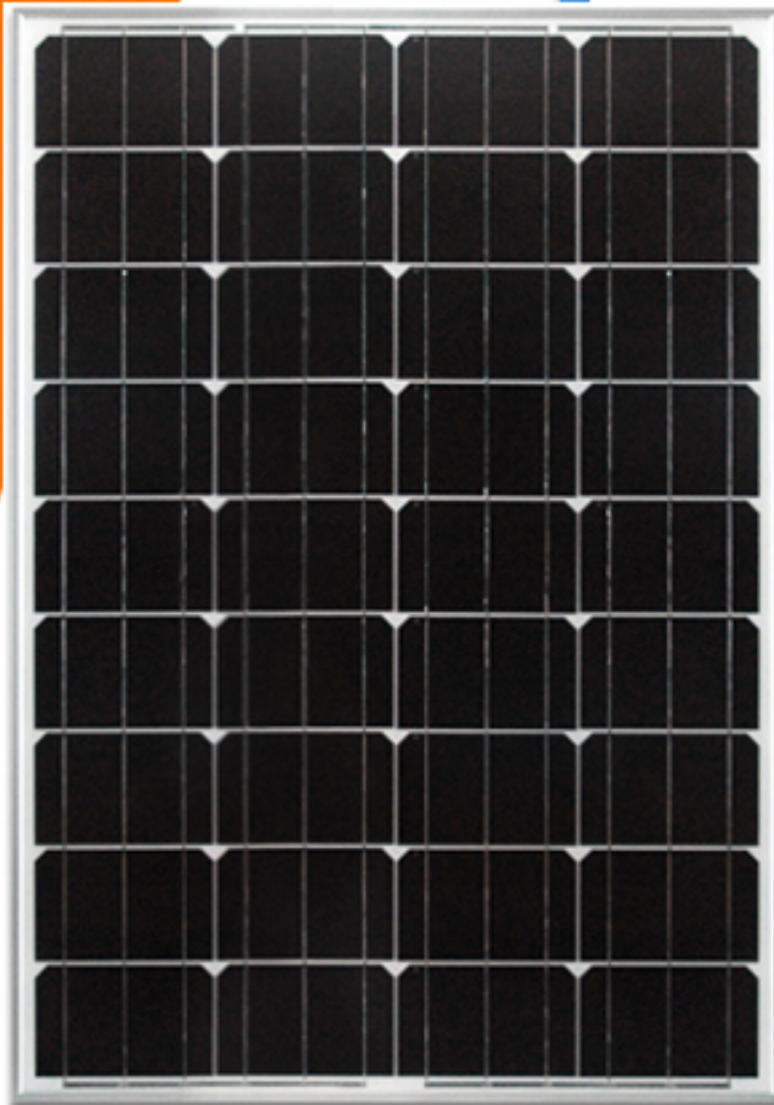
### Electrical Characteristics:

Maximum power at STC (P <sub>MAX</sub> ):	120W
Open Circuit Voltage (VOC):	19.49V
Short Circuit Current I <sub>sc</sub> :	7.73A
Voltage at P <sub>max</sub> (V <sub>MP</sub> ):	17.4V
Current at P <sub>max</sub> (I <sub>MP</sub> ):	6.9A

### Limits:

Maximum System Voltage:	1000V
Operating Temperature:	-40~+85°C

**Also Available in Polycrystalline!**



# SOLAR PANELS

## 200watt Polycrystalline Panels

### Specifications:

Cell Type:	Polycrystalline Silicon Solar Cell
No. of Cell:	48(6*8)
Dimension:	1324*992*45mm
Weight:	16.5 Kg
Front glass:	3.2mm High Transmission, Tempered Glass
Frame:	Anodized Aluminum Alloy
Junction Box:	IP65 Rated
Output cables:	TUV 1x4mm <sup>2</sup> at 900mm

### Electrical Characteristics:

Maximum power at STC (P <sub>MAX</sub> ):	200W
Open Circuit Voltage (VOC):	24.90V
Short Circuit Current I <sub>sc</sub> :	8.05A
Voltage at P <sub>max</sub> (V <sub>MP</sub> ):	30.20V
Current at P <sub>max</sub> (I <sub>MP</sub> ):	8.79A

### Limits:

Maximum System Voltage:	1000V
Operating Temperature:	-40~+85°C

**Also Available in Monocrystalline!**



# SOLAR PANELS



## 250watt Polycrystalline Panels

### Specifications:

Cell Type:	Polycrystalline Silicon Solar Cell
No. of Cell:	60(6*10)
Dimension:	1650*992*45mm
Weight:	18.5 Kg
Front glass:	3.2mm High Transmission, Tempered Glass
Frame:	Anodized Aluminum Alloy
Junction Box:	IP65 Rated
Output cables:	TUV 1x4mm <sup>2</sup> at 900mm

### Electrical Characteristics:

Maximum power at STC (P <sub>MAX</sub> ):	250W
Open Circuit Voltage (VOC):	37.7V
Short Circuit Current I <sub>sc</sub> :	8.85A
Voltage at P <sub>max</sub> (V <sub>MP</sub> ):	30.5V
Current at P <sub>max</sub> (I <sub>MP</sub> ):	8.17A

### Limits:

Maximum System Voltage:	1000V (IEC)
Operating Temperature:	-40~+85°C

**Also Available in Monocrystalline!**



# SMART GRID Inverters

**Single phase on & off grid auto switch PV inverter (LOW VOLTAGE)**

*with MPPT Charge Controller Built in*



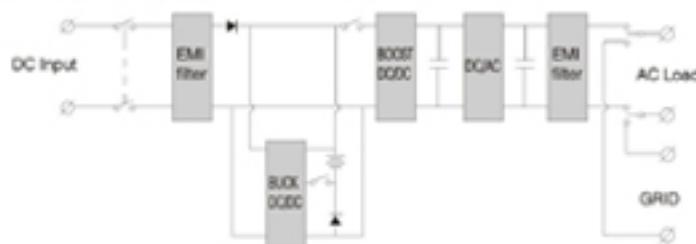
## Overview

The unique technology of Smart Inverter succeeds in realizing the combination of Grid tie and Off Grid mode. This Inverter will supply power to the loads while charging the batteries and the excess power will feed in the grid. Whenever there is a fault in the grid, it will automatically switch to stand - alone mode. When this inverter is use in Off Grid applications, PV power is always preferred. If the Solar power is not enough, it will automatically use the batteries as power source.

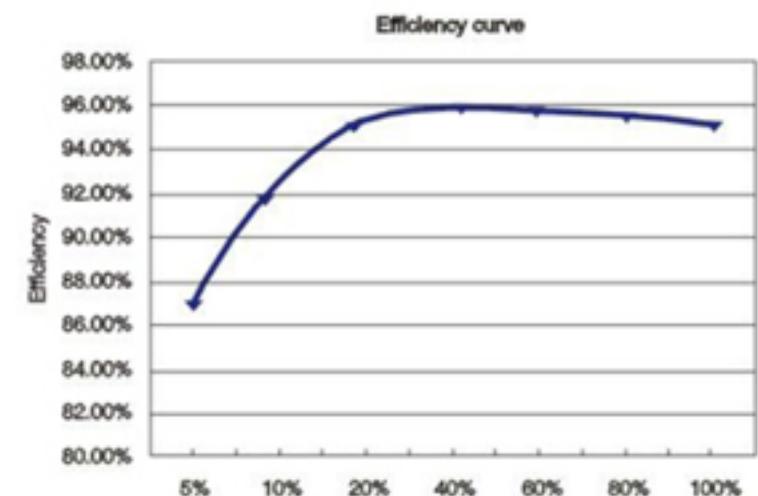
## Features

- Max. efficiency 97.0%
- MPPT max. efficiency 99.0%
- Power factor 0.9999
- Active frequency offset Anti - islanding
- Large screen multi - language - LCD display
- Stack available
- Less standby power consumption
- Multi - protection for maximum safety
- Statistics for power production and CO2
- 8K x 4 RUN LOG cycle index
- RS485/232 compatible/WIFI
- Various Panel Types matched
- Soft or variable frequency start option
- Battery manage option
- Various battery types matched

## Diagram



## Efficiency Curve



# SMART GRID Inverters

**Single phase on & off grid auto switch PV inverter (LOW VOLTAGE)**  
with MPPT Charge Controller Built in



AC side	Sunstar-S1K	Sunstar-S1K5	Sunstar-S2k	Sunstar-S3K	Sunstar-S4k
Continuous output power at 40 °C (P nom)	1000W	1500W	2000W	3000W	4000W
AC output current	5.0A	7.5A	10.0A	15.0A	20.0A
AC output voltage (nominal)	220V AC+20%, 50/60Hz±1Hz, true sine wave<3% THD, single phase				
AC output range	176-264V AC (limited by local anti-islanding regulations)				
Standby losses	<15W				
User interface	interactive LCD display with button operation				
Connectivity	Wireless RS232/458, TCP/IP				
Backup switch over time	<5 ms				
DC side					
Max. input	22.9A	34.4A	45.8A	45.8A	45.8A
Solar Voltage	48-75V DC	48-75V DC	48-75V DC	72-110V DC	96-150V DC
Solar Connections	MC4				
Max. Efficiency	97.00%				
Max. MPP Efficiency	99.00%				
Power factor	> 0.99 (Rated power)				
Battery					
Charge voltage (V DC)	48	48	48	72	96
Battery types	Gel, AGM, LiFePO4				
Battery capacity	65-200Ah recommended				
Charge curve	CC, CV, FC, 3-stage adaptive with maintenance				
Battery patrol management	for option				
Battery self-checking	for option				
Environmental					
Operating Temperature Range (full power)	-10°C to +50°C (derating from 40°C)				
Storage Temperature	-40°C to +70°C				
Humidity	maximum 90%, non-condensing				
Warranty	Two years (optional: extension to ten years)				
General					
Protection Category	IP23				
Protection	over/under voltage, over/under frequency, anti-islanding, AC short circuit, Ground fault monitoring, DC reverse polarity, over load				
Topology	HF-CHAIN				
Cooling	Nature Cooling		Fan Cooling		

# SMART GRID Inverters

**Single phase on & off grid auto switch PV inverter (HIGH VOLTAGE)**

*with MPPT Charge Controller Built in*



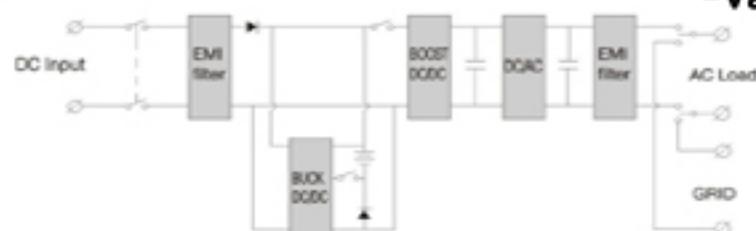
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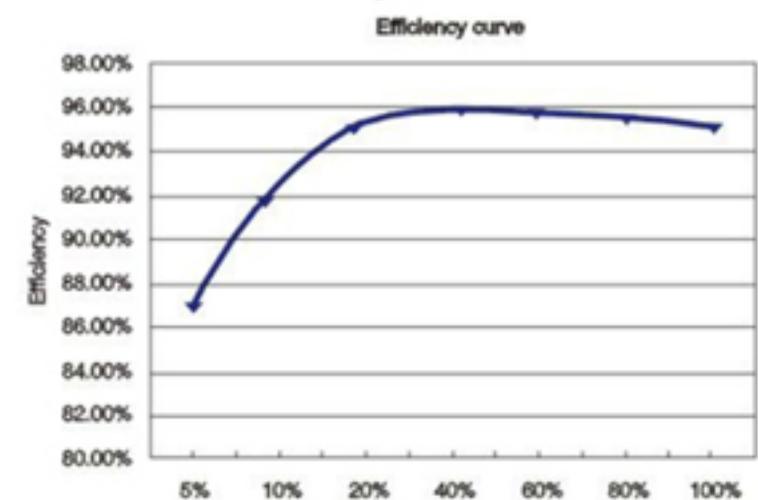
## Features

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- MPPT max. efficiency 99.0%
- Power factor 0.9999
- Active frequency offset Anti - islanding
- Large screen multi - language - LCD display
- Stack available
- Less standby power consumption
- Multi - protection for maximum safety
- Statistics for power production and CO2
- 8K x 4 RUN LOG cycle index
- RS485/232 compatible/WIFI
- Various Panel Types matched
- Soft or variable frequency start option
- Battery manage option
- Various battery types matched

## Diagram



## Efficiency Curve



# SMART GRID Inverters

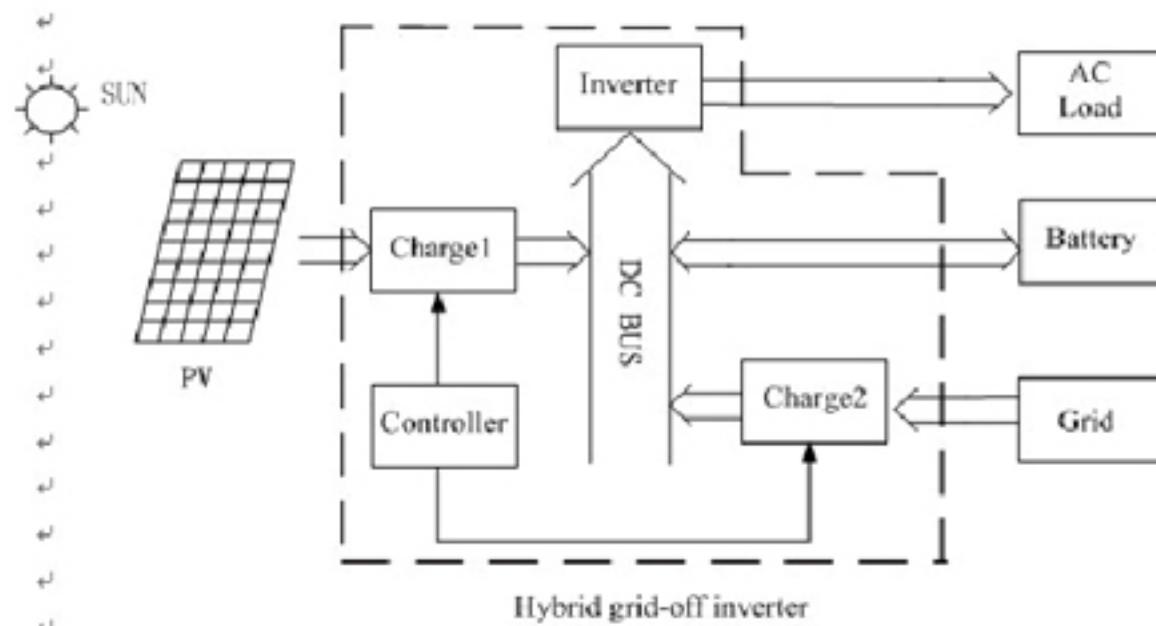
**Single phase on & off grid auto switch PV inverter (HIGH VOLTAGE)**  
with MPPT Charge Controller Built in



AC side	SMS-2K/1S	SMS-3K/1S	SMS-5K/1S	SMS-7K/1S	SMS-10K/1S
Continuous output power at 40°C (P nom)	2000W	3000W	5000W	7000W	10000W
AC output current	10.0A	15.0A	25.0A	35.0A	50.0A
AC output voltage (nominal)	220V AC+20%, 50/60Hz±1Hz, true sine wave<3% THD, single phase				
AC output range	176-264V AC (limited by local anti-islanding regulations)				
Standby losses	<15W				
User interface	interactive LCD display with button operation				
Connectivity	Wireless RS232/458, TCP/IP				
Backup switch over time	<5 ms				
DC side					
Max. input	12.2A	18.3A	30.6A	42.8A	45.8A
Solar Voltage	180-360V DC				240-360V DC
Solar Connections	MC4				
Max. Efficiency	97.00%				
Max. MPPT Efficiency	99.00%				
Power factor	> 0.99 (Rated power)				
Battery					
Charge voltage (V DC)	168	168	192	192	216
Battery types	Gel, AGM, LiFePO4				
Battery capacity	85-200Ah recommended				
Charge curve	CC, CV, FC, 3-stage adaptive with maintenance				
Battery patrol management	for option				
Battery self-checking	for option				
Environmental					
Operating Temperature Range (full power)	-10°C to +50°C (derating from 40°C)				
Storage Temperature	-40°C to +70°C				
Humidity	maximum 90%, non-condensing				
Warranty	five years (optional: extension to ten years)				
General					
Protection Category	IP65				
Protection	over/under voltage, over/under frequency, anti-islanding, AC short circuit, Ground fault monitoring, DC reverse polarity, over load				
Topology	HF-CHAIN				
Cooling	Nature Cooling		Fan Cooling		

# OFF GRID Inverters

## with MPPT Solar Controller



Hybrid Off-grid Inverter schematic<sup>v</sup>

### Overview

This inverter has bypass solution between the Grid Power Supply and battery bank charged by hybrid solutions like PV. The inverter houses both the solar charge controller and battery charger function along with an ATS (Automatic Transfer Switch) function from the Solar Power to the Main Grid Power. It is applying the automatic CPU control, and the energy saving function as a common unit. When the energy produced from the Solar Panel is not enough, the inverter will change to the Grid Power and continue to supply the power to AC Equipment and charge the battery at the same time, the customer can use the power without any interruptions.

### Features

- Independent technology MPPT Control algorithm
- Modular design, high power density
- High frequency isolation method
- High conversion efficiency
- Low temperature rise, low noise
- With independent patent technology to run and control automatically
- Complete system protection mechanism
- High reliability
- Intelligent air cooling design
- User friendly man-machine interface, easy to operate
- Wide array input voltage range and power input voltage range

# OFF GRID Inverters

with MPPT Solar Controller

	INVP MPPT 1K24V	INVP MPPT 2K48V	INVP MPPT 3K48V	INVP MPPT 5K48V
Related Capacity	1	2	3	5
Battery rated voltage (V)	24	48	48	48
<b>PV INPUT</b>				
PV maximum input open voltage (V)	225	225	225	225
MPPT Voltage range (V)	100	150	150	150
<b>GRID INPUT</b>				
Voltage range (VAC)	110/220 ± 15%			
Frequency (Hz)	50/60			
Rated Charge Current (A)	30	30	30	30
<b>OUTPUT</b>				
Rated Outpt Voltage (V)	110 / 220 ± 15%			
Rated Output Frequency (Hz)	50 / 60 ± 1%			
Rated Output Current (A)	5.5	9.1	13.6	22.7
Output Power Factor	≥ 0.8			
THD	< 3%			
Output Wave	Sine Wave			
Output Phase	Single Phase			
Peak Factor	3:01			
<b>OTHERS</b>				
PV Charge Current	2*20A	2*20A	2*30A	2*50A
Efficiency	≥8.5%			
Dynamic Response	5% (load from 0 to 100%)			
Noise level	≤ 40dB ( 1m distance )			
Display Interface	LCD			
Communication Interface	RS485			
Environmental temperature	-30 - + 55			
Environmental Humidity	10% - 90% (Non Condensing)			
Protection Level	IP21			
Protection Function	Array/ over voltage, over current,short circuit, reverse connection, etc protection function			
Altitude (m)	≤ 2000 (Above 1000m need according GB/T3859.2 to derate operating			
Dimensions (mm)	420*640*210 (W*H*D)	420*640*210 (W*H*D)	420*640*210 (W*H*D)	420*640*210 (W*H*D)
Weight (kg)	20	25	25	30



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**INVERTERS**

# OFF GRID Inverters

with PWM Solar Controller



## Overview

The biggest feature of this inverter is with the bypass solution between the Grid power supply and battery bank charged by hybrid solutions like PV. When the energy produced from the solar Panel is not enough, the Inverter will change to the Grid Power and continue to supply the power to AC Equipment and charge the battery at the same time, the customer can use the power without any interruption. It has the solar charger controller and battery charger function.

## Features

- High efficiency energy saving
- Low self - consumption below 1.2A
- Pure sine wave
- Extreme overload capacity and super load capacity
- DC reverse polarity protection
- CPU Technology control
- Big charging current up to 70 Amp.
- Intelligent LED Display
- Automatically switch between the grid and inverter mode
- It can work with the generator
- Intelligent fan control mode
- With the AVR function

# OFF GRID Inverters

## with PWM Solar Controller

	INVP PWM 500W	INVP PWM 800W	INVP PWM 1000W	INVP MPPT 1500W	INVP PWM 2000W	INVP PWM 3000W	INVP PWM 5000W
<b>AC Output Load</b>							
Nominal AC Voltage	220V / 200-240V	220V / 200-240V	220V / 200-240V	220V / 200-240V	220V / 200-240V	220V / 200-240V	220V / 200-240V
Optional 220V / 120V	120V / 105-132V	120V / 105-132V	120V / 105-132V	120V / 105-132V	120V / 105-132V	120V / 105-132V	120V / 105-132V
Nominal AC Frequency	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz
Continuous AC power for 3 hours 25°C	500W	800W	1050W	1500W	2100W	3000W	4200W
Continuous AC power for 25°C	500W	800W	1000W	1500W	2000W	3000W	4000W
Nominal AC current / max current AC current (peak)	2.28A / 6.81A 1ms 4.15A / 12.5A 1ms	3.63A / 10.9A 1ms 6.66A / 20A 1ms	4.55A / 13.63A 1ms 8.43A / 24.9A 1ms	6.85A / 20.45A 1ms 12.50A / 37.55A 1ms	9.10A / 27.28A 1ms 16.67A / 50A 1ms	13.64A / 40.91A 1ms 25.0A / 75.0A 1ms	18.55A / 54.63 1ms 33.33A / 99.99A 1ms
THD output voltage	≤ 3 %	≤ 3 %	≤ 3 %	≤ 3 %	≤ 3 %	≤ 3 %	≤ 3 %
Power Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<b>AC Input (generator or grid)</b>							
AC Input Voltage	220V / 165-270V	220V / 165-270V	220V / 165-270V	220V / 165-270V	220V / 165-270V	220V / 165-270V	220V / 165-270V
AC input Range	120V / 105-132V	120V / 105-132V	120V / 105-132V	120V / 105-132V	120V / 105-132V	120V / 105-132V	120V / 105-132V
AC Input Frequency	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz
<b>Solar charge Controller</b>							
Rated Power	480W	720W	720W	1440W	1920W	2880W	2880W
PV Charge Voltage	24V	24V	24V	24V	48V	48V	48V
PV Charge Current	20A	30A	30A	60A	40A	60A	60A
<b>Battery DC Input</b>							
Battery Voltage	12V	12V	12V	12V	12V	12V	12V
Battery Range	10-16V	10-16V	10-16V	10-16V	10-16V	10-16V	10-16V
Optional	24V / 20-32V	24V / 20-32V	24V / 20-32V	24V / 20-32V	24V / 20-32V	24V / 20-32V	24V / 20-32V
	48V / 40-64V	48V / 40-64V	48V / 40-64V	48V / 40-64V	48V / 40-64V	48V / 40-64V	48V / 40-64V
Max battery charging current	30A	30A	30A	30A	30A	30A	30A
Continuous Charging current at 25 °C	10-30A	10-30A	10-30A	10-30A	10-30A	10-30A	10-30A
Battery Type	Lead Acid	Lead Acid	Lead Acid	Lead Acid	Lead Acid	Lead Acid	Lead Acid
Battery Capacity	100 - 1000Ah	100 - 1000Ah	100 - 1000Ah	100 - 1000Ah	100 - 1000Ah	100 - 1000Ah	100 - 1000Ah
Charge Control Mode	3 Stage	3 Stage	3 Stage	3 Stage	3 Stage	3 Stage	3 Stage
<b>Efficiency / Self Consumption</b>							
Max Efficiency	>90%	>90%	>90%	>90%	>90%	>90%	>90%
<b>Full intellectual Protection</b>							
Transfer Time	≤ 4ms	≤ 4ms	≤ 4ms	≤ 4ms	≤ 4ms	≤ 4ms	≤ 4ms
Dimension (LxWxH)	350*160*290mm	350*160*290mm	350*160*290mm	350*160*290mm	440*305*200mm	440*305*200mm	440*305*200mm
Net Weight kg	15kg	17kg	19kg	25kg	27kg	37kg	39kg
Operating Temperature Range	20°C - 45°C	20°C - 40°C	20°C - 45°C	20°C - 45°C	20°C - 40°C	0% - 95%	0% - 95%
Degree of Protection	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Noise emission typical	≤ 30dB (1m)	≤ 30dB (1m)	≤ 30dB (1m)	≤ 30dB (1m)	≤ 30dB (1m)	≤ 30dB (1m)	≤ 30dB (1m)
Permissible value for relative humidity	0% - 95%	0% - 95%	0% - 95%	0% - 95%	0% - 95%	0% - 95%	0% - 95%
<b>Accessories</b>							
DC terminal	Anderson Connector						
AC terminal	Europe Terminal						
Certificate	CE / ISO9001						



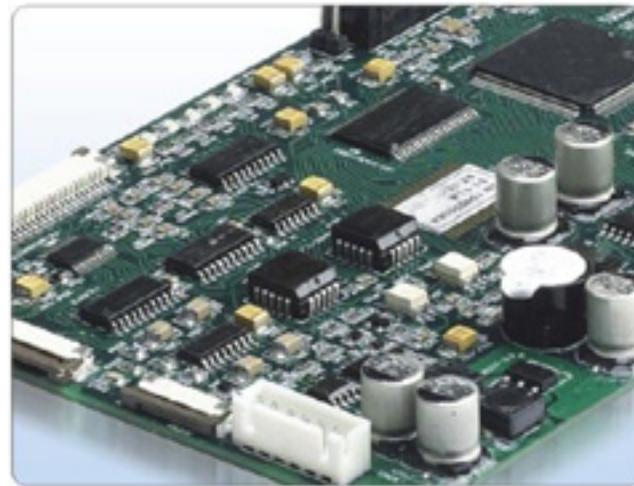
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**INVERTERS**

# GRID TIE Inverters

Single phase grid tie PV inverter

with MPPT Charge Controller Built in



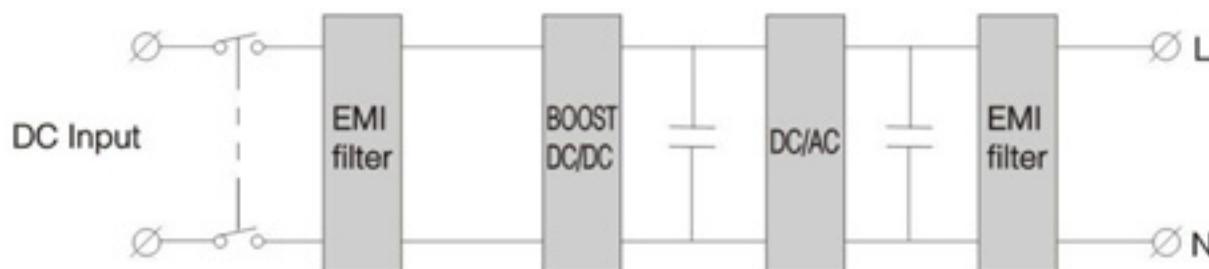
## Overview

Grid-tie inverter converts direct current (DC) electricity into alternating current (AC) with an ability to synchronize to interface with a utility line.

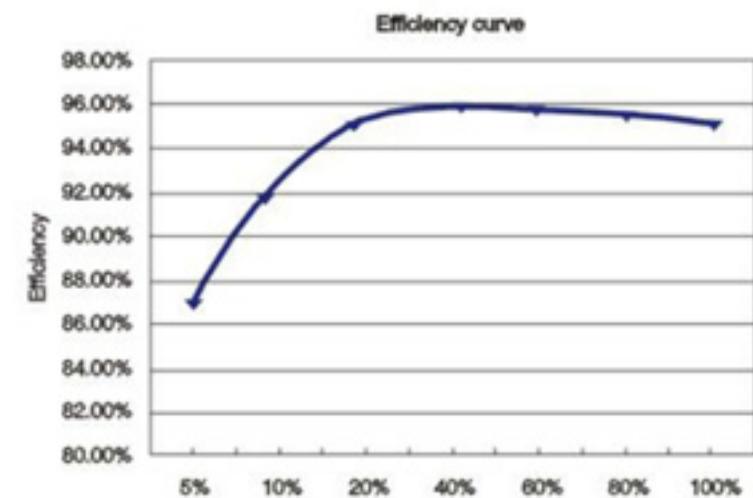
## Features

- Max. efficiency 97.0%
- MPPT max. efficiency 99.0%
- Power factor 0.9999
- Active frequency offset Anti - islanding
- Large screen multi - language - LCD display
- Stack available
- Less standby power consumption
- Multi - protection for maximum safety
- Statistics for power production and CO2
- 8K x 4 RUN LOG cycle index
- RS485/232 compatible/WIFI
- Various Panel Types matched

## Diagram



## Efficiency Curve



# GRID TIE Inverters

## Single phase grid tie PV inverter



AC side	SF-9K/2S	SF-10K/2S	SF-15K/2S	SF-17K/2S	SF-20K/2S
Continuous output power at 40°C(P nom)	9000W	10000W	15000W	17000W	20000W
AC output current	45.0A	50.0A	75.0A	85.0A	100.0A
AC output voltage(nominal)	220Vac±20%,50/60Hz±1Hz, true sine wave<3% THD, single phase				
AC output range	176-264V AC (limited by local anti-islanding regulations)				
Standby losses	≤15W				
User interface	interactive LCD display with button operation				
Connectivity	Wireless RS232/458, TCP/IP				
Backup switch over time	<5 ms				
DC side					
Max. input	41.3A	45.8A	68.8A	72.0A	84.6A
Solar Voltage	240-360V DC			260-360V DC	
Solar Connections	MC4				
Max. Efficiency	97.00%				
Max. MPP Efficiency	99.00%				
Power factor	> 0.99 (Rated power)				
Environmental					
Operating Temperature Range(full power)	-25°C to +50°C				
Storage Temperature	-40°C to +70°C				
Humidity	maximum 90%, non-condensing				
Warranty	Two years (optional: extension to ten years)				
General					
Protection Category	IP23				
Protection	over/under voltage, over/under frequency, anti-islanding, AC short circuit, Ground fault monitoring, DC reverse polarity, over load				
Topology	HF-CHAIN				
Cooling	Nature Cooling		Fan Cooling		

# GRID TIE Inverters

## Single phase grid tie PV inverter



AC side	SM-1K/1S	SM-2K/1S	SM-3K/1S	SM-5K/1S	SM-7K/1S
Continuous output power at 40°C (P nom)	1000W	2000W	3000W	5000W	7000W
AC output current	5.0A	10.0A	15.0A	25.0A	35.0A
AC output voltage(nominal)	220Vac $\pm$ 20%,50/60Hz $\pm$ 1Hz, true sine wave<3% THD, single phase				
AC output range	176-264V AC (limited by local anti-islanding regulations)				
Standby losses	$\leq$ 15W				
User interface	interactive LCD display with button operation				
Connectivity	Wireless RS232/458, TCP/IP				
Backup switch over time	<5 ms				
DC side					
Max. input	6.1A	12.2A	18.3A	30.6A	42.8A
Solar Voltage	180-360V DC				
Solar Connections	MC4				
Max. Efficiency	97.00%				
Max. MPP Efficiency	99.00%				
Power factor	> 0.99 (Rated power)				
Environmental					
Operating Temperature Range(full power)	-25°C to +50°C				
Storage Temperature	-40°C to +70°C				
Humidity	maximum 90%, non-condensing				
Warranty	five years (optional: extension to ten years)				
General					
Protection Category	IP65				
Protection	over/under voltage, over/under frequency, anti-islanding, AC short circuit, Ground fault monitoring, DC reverse polarity, over load				
Topology	HF-CHAIN				
Cooling	Nature Cooling	Fan Cooling			

# SOLAR CHARGE CONTROLLER

Intelligent Solar Charger + Built-in Timer

## 10A Solar Charge Controller



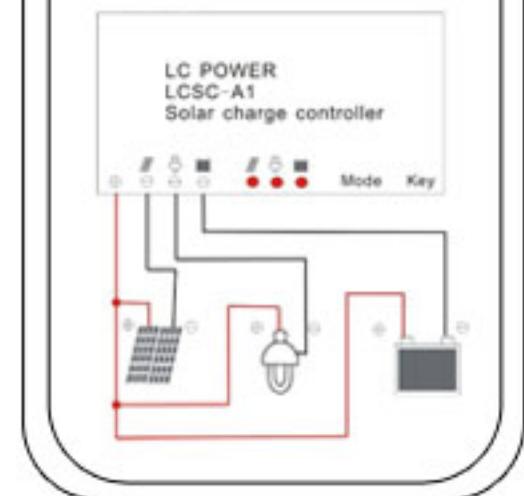
Max. charge/load current	10A	20A
Float Charge	13.8V/27.6V(25°C)	
Main Charge	14.4/28.8 V (25 °C), 30 min. (daily)	
Boost charge	14.4/28.8 V (25°C), 2 h Activation: battery voltage < 12V/24V	
Deep discharge protection:Cut-off voltage	11V/22V	
Deep discharge protection:Reconnect voltage	12V/24V	
Overvoltage protection	16V/32V	
Max. panel voltage	55V	
Temperature compensation	-4mV/°C·2V	
Max. own consumption	5 ~ 10mA	
Night/day detection delay time	3min	

## 20A Solar Charge Controller



Overload and short-circuit protection	Overload: >1.2 times rated current and last 20 seconds; >1.5 times rated current and last 3 seconds; Short-circuit: >2.5 times rated current	
Grounding	Positive grounding possible	
Working temperature	-40 ~ +55°C	
Maximum above sea level	4,000 m above sea level	
Type of protection	IP68 (1.5 m, 72 h)	
Product size	82*59*20 mm	
Package size	110*87*32mm	150*87*32mm
Weight	140g	
System voltage	12/24 V auto recognition	

## Wiring Diagram

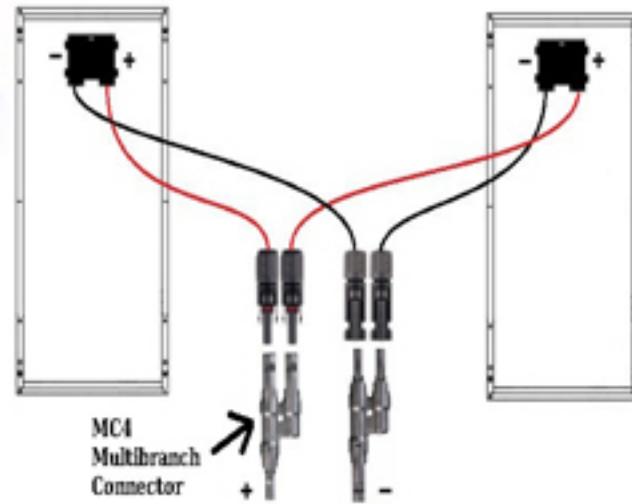


## Features

- ☑ Positive grounding;
- ☑ Automatic recognition of system voltage 12/24 V;
- ☑ External temperature sensor
- ☑ Improved 4 stage charging
- ☑ Multi optional output mode
- ☑ With electricity protection data-saving function;
- ☑ Perfect protections on reverse polarity
- ☑ Protection degree: IP68, in 1.5 m water depth 72 Hours;
- ☑ Widely programmable;

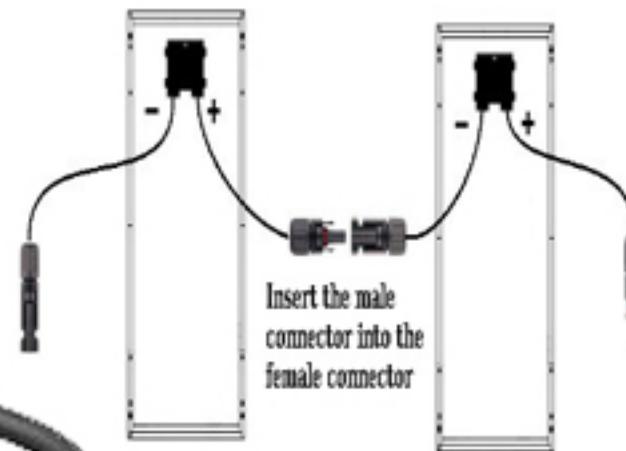
# MC4 Connectors

## Parallel Connection



Rated for 30 amps max  
(the connector itself, not the wire)  
Rated for 1,000 volts max  
Rated temperature range:  
-40 degrees C to +90 degrees C (-40 F to 194 F)

## Series Connection



CN40-CM Male

CN40-CM Female



# COMBINER BOX



## 4 Stringed Combiner Box

Max No. of String: 4  
Max current of ea String: 10/20A  
Size: W: 350mm H: 300mm  
Weight: 9kg



## 10 Stringed Combiner Box

Max No. of String: 10  
Max current of ea String: 10/20A  
Size: W: 500mm H: 400mm  
Weight: 16kg



## 6 Stringed Combiner Box

Max No. of String: 6  
Max current of ea String: 10/20A  
Size: W: 350mm H: 300mm  
Weight: 12kg



## 12 Stringed Combiner Box

Max No. of String: 12  
Max current of ea String: 10/20A  
Size: W: 600mm H: 500mm  
Weight: 23kg



## 8 Stringed Combiner Box

Max No. of String: 8  
Max current of ea String: 10/20A  
Size: W: 500mm H: 400mm  
Weight: 14kg



## 16 Stringed Combiner Box

Max No. of String: 16  
Max current of ea String: 10/20A  
Size: W: 600mm H: 500mm  
Weight: 29kg

### FEATURES:

- Applicable for outdoor PV systems
- Wide DC voltage input range with maximum open circuit voltage up to 1000 volts
- With PV dedicated DC fuses with maximum voltage not less than 1000V
- Waterproof terminals
- Monitoring feature optional for each string of PV array
- With PV dedicated high voltage lightning protection device



# Distribution Box

## Overview

It contains a DC distribution unit and an AC distribution unit. The DC distribution unit collects the DC current from PV arrays and feed into the inverter and it contains DC input circuit breakers, Anti-pole diodes, PV lighting protection device. The AC distribution unit is mainly served for providing interface to the inverter to get connection to the utility power network-side circuit breaker, lighting protection devices, metering meters and grid connection ports.

## Features

- Applicable for outdoor PV systems
- 6/16 PV string inputs with maximum string current at 10A
- Wide DC voltage input range with maximum open circuit voltage upto 900V
- Monitoring feature optional for each string of PV array
- Waterproof Terminals
- Both +ve & -ve poles equipped with a 4 - pole circuit breaker with the allowable DC Voltage not less than 1000V
- With PV dedicated high voltage lighting protection device



# AGM Paste Batteries

## Valve-regulated Lead Acid Battery

### FEATURES:

- Spill proof through acid encapsulation in matting technology high specific power.
- Low internal resistance.
- Responsive to load upto 5 times faster charge than with flooded technology.
- Better cycle life than with flooded systems.
- Water retention (OXYGEN and HYDROGEN combined, to produce WATER).
- Vibration resistance due to sandwich construction.
- Stands up well to cold temperature.

Absorbent Glass Mat (AGM) is a class of Lead-acid battery in which the electrolyte is absorbed into fiberglass mat. The plates in an AGM battery may be flat like wet cell lead - acid battery, or they may be wound in tight spiral.

The internal resistance of AGM batteries is lower than traditional cells, they can handle higher temperatures and self discharge more slowly.

*Life Expectancy:*  
**8 - 10 Years**

Available in different Sizes:  
from 5Ah up to 200Ah



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**BATTERIES**

# Crimping Tools



# Portable Water Tanks

Suitable for Solar Water Pumps

1 cubic meter Portable Water Tank

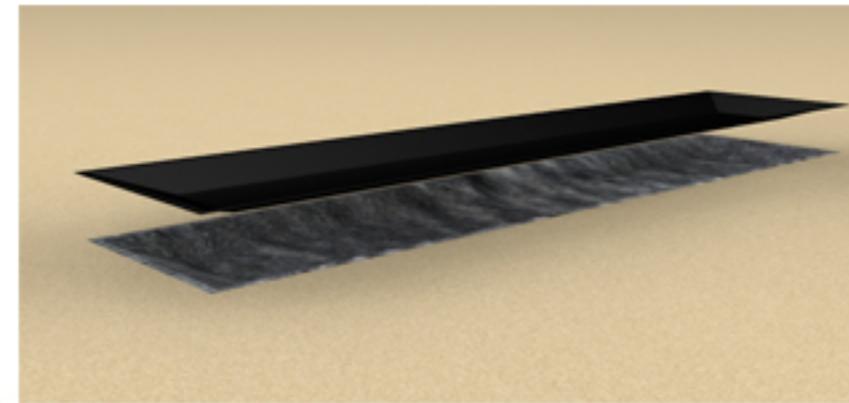


1 cubic meter Portable Steel Tank

Large Portable Water Tank



Fish Pond liner



**All Available in different sizes**

**WATER STORAGE**

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# COB LED Street Lights

## 15w COB LED Street Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 1,800 - 1,910lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 80w COB LED Street Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 9,600 - 10,400lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 20w COB LED Street Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 2,420 - 2,510lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 90w COB LED Street Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 10,400 - 11,200lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 30w COB LED Street Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 3,623 - 3,803lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 120w COB LED Street Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 14,490 - 15,400lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 60w COB LED Street Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 5,800 - 6,500lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

### Body Material:

Aluminum Die Cast  
+ Tempered Glass

Available in a wide range of Light Output!

HPS / Metal Halide	Suggested LED Replacement
100W	28W
150W	56W
250W	84W
400W	110W - 140W
600W	220W
1000W	250W

Also

Available in

**12V!**

# Latest Chip on Board Technology

**INDUSTRIAL LIGHTS**

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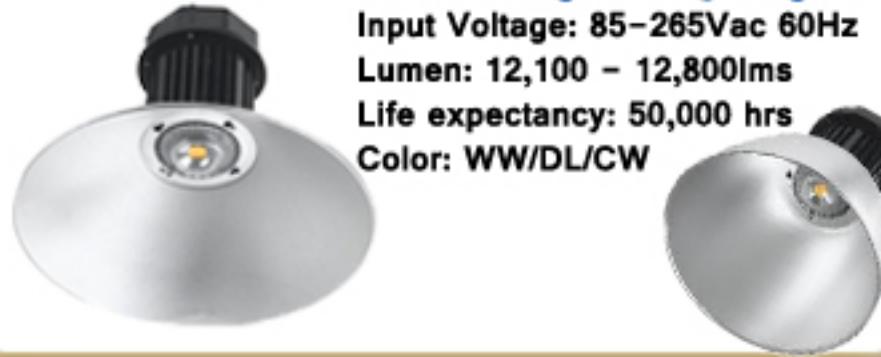
# COB LED High Bay Lights

## 30w COB LED High Bay Light



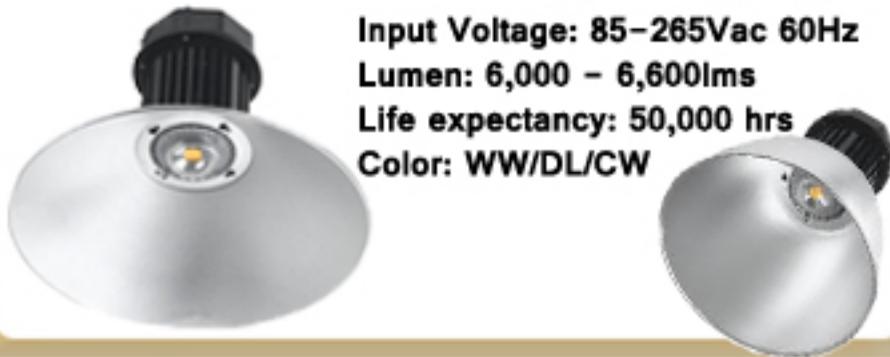
Input Voltage: 85-265Vac 60Hz  
Lumen: 3,200 - 3,700lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 100w COB LED High Bay Light



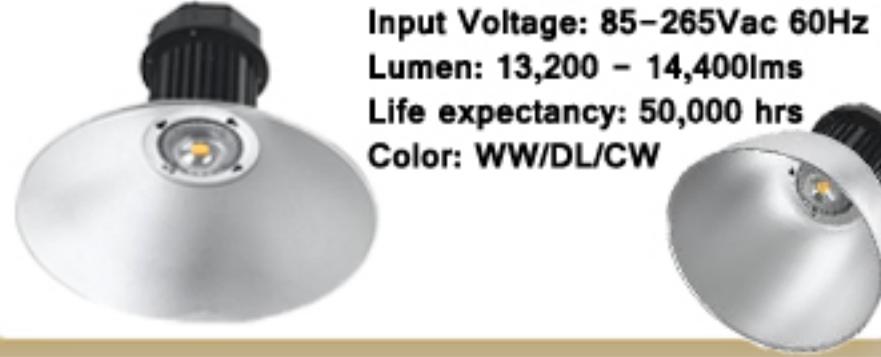
Input Voltage: 85-265Vac 60Hz  
Lumen: 12,100 - 12,800lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 60w COB LED High Bay Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 6,000 - 6,600lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 120w COB LED High Bay Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 13,200 - 14,400lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 80w COB LED High Bay Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 9,600 - 10,020lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

Available in a wide range of Light Output!

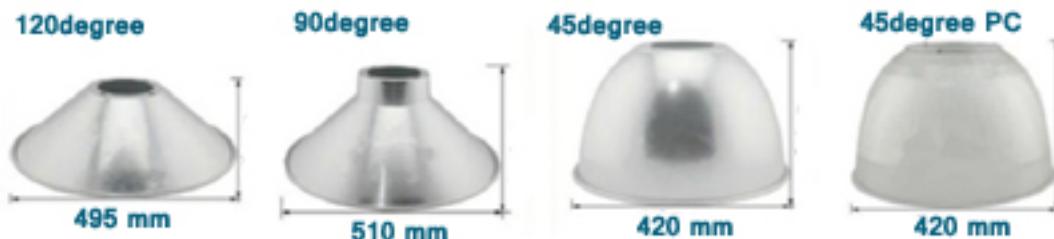
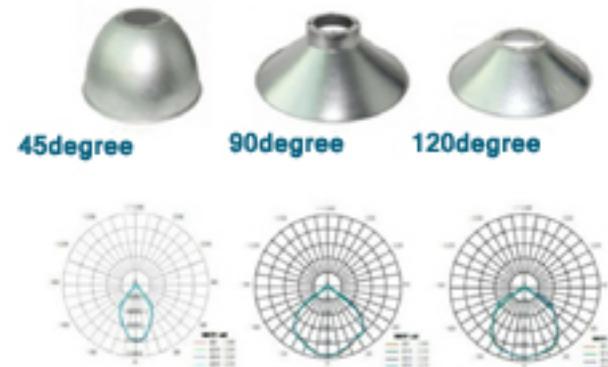
HPS / Metal Halide	Suggested LED Replacement
100W	28W
150W	56W
250W	84W
400W	110W - 140W
600W	220W
1000W	250W

**Body Material:**  
Aluminum Die Cast

+

Tempered Glass

## Spectrogram



**INDUSTRIAL LIGHTS**

# COB LED Flood Lights



## 10w COB LED Flood Light

Input Voltage: 85-265Vac 60Hz  
Lumen: 1,100 - 1,200lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW



## 90w COB LED Flood Light

Input Voltage: 85-265Vac 60Hz  
Lumen: 10,020 - 11,050lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

Available in a wide range of Light Output!



## 20w COB LED Flood Light

Input Voltage: 85-265Vac 60Hz  
Lumen: 2,200 - 2,400lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW



## 100w COB LED Flood Light

Input Voltage: 85-265Vac 60Hz  
Lumen: 11,000 - 12,000lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW



## 30w COB LED Flood Light

Input Voltage: 85-265Vac 60Hz  
Lumen: 3,000 - 3,900lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW



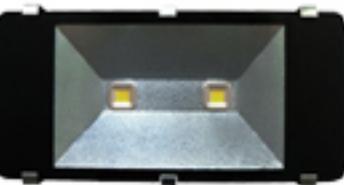
## 120w COB LED Flood Light

Input Voltage: 85-265Vac 60Hz  
Lumen: 13,200 - 14,400lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW



## 60w COB LED Flood Light

Input Voltage: 85-265Vac 60Hz  
Lumen: 6,600 - 7,600lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW



## 160w COB LED Flood Light

Input Voltage: 85-265Vac 60Hz  
Lumen: 19,380 - 20,110lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW



## 80w COB LED Flood Light

Input Voltage: 85-265Vac 60Hz  
Lumen: 8,800 - 9,600lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW



## 250w COB LED Flood Light

Input Voltage: 85-265Vac 60Hz  
Lumen: 11,000 - 12,000lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

HPS / Metal Halide	Suggested LED Replacement
100W	28W
150W	56W
250W	84W
400W	110W - 140W
600W	220W
1000W	250W

**Body Material:**  
Aluminum Die Cast

Also Available in

**12V!**

# RGB COB LED Flood Lights

Available in a wide range of Light Output!

## 10w RGB COB LED Flood Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 1,100 - 1,200lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 60w RGB COB LED Flood Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 10,020 - 11,050lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 20w RGB COB LED Flood Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 2,200 - 2,400lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 80w RGB COB LED Flood Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 8,800 - 9,600lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 30w RGB COB LED Flood Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 3,000 - 3,900lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 100w RGB COB LED Flood Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 11,000 - 12,000lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

## 50w RGB COB LED Flood Light



Input Voltage: 85-265Vac 60Hz  
Lumen: 6,600 - 7,600lms  
Life expectancy: 50,000 hrs  
Color: WW/DL/CW

HPS / Metal Halide	Suggested LED Replacement
100W	28W
150W	56W
250W	84W
400W	110W - 140W
600W	220W
1000W	250W

**Body Material:**  
Aluminum Die Cast

Also Available in

**12V!**

**RGB**



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**INDUSTRIAL LIGHTS**

# LED Bulbs and Tube Lights

## 4th Generation LED Lights



### 2W MCOB LED Bulbs

Input Voltage: 85-265Vac 60Hz  
 Lumen: 200lms  
 Size: H: 50mm L: 90mm  
 Life expectancy: 20-50,000 hrs  
 Color: WW/DL/CW



### 7W MCOB LED Bulbs

Input Voltage: 85-265Vac 60Hz  
 Lumen: 630lms  
 Size: H: 60mm L: 120mm  
 Life expectancy: 20-50,000 hrs  
 Color: WW/DL/CW



### 3W MCOB LED Bulbs

Input Voltage: 85-265Vac 60Hz  
 Lumen: 290lms  
 Size: H: 50mm L: 92mm  
 Life expectancy: 20-50,000 hrs  
 Color: WW/DL/CW



### 9W MCOB LED Bulbs

Input Voltage: 85-265Vac 60Hz  
 Lumen: 810lms  
 Size: H: 60mm L: 120mm  
 Life expectancy: 20-50,000 hrs  
 Color: WW/DL/CW



### 4W MCOB LED Bulbs

Input Voltage: 85-265Vac 60Hz  
 Lumen: 360lms  
 Size: H: 60mm L: 120mm  
 Life expectancy: 20-50,000 hrs  
 Color: WW/DL/CW



### 16W T8 MCOB LED Tube Lights

Input Voltage: 85-265Vac 60Hz  
 Lumen: 1,440lms  
 Size: H: 26mm x 1,200mm  
 Life expectancy: 20-50,000 hrs  
 Color: WW/DL/CW



### 5.5W MCOB LED Bulbs

Input Voltage: 85-265Vac 60Hz  
 Lumen: 470lms  
 Size: H: 60mm L: 120mm  
 Life expectancy: 20-50,000 hrs  
 Color: WW/DL/CW



### 8W T8 MCOB LED Tube Lights

Input Voltage: 85-265Vac 60Hz  
 Lumen: 720lms  
 Size: H: 26mm x 600mm  
 Life expectancy: 20-50,000 hrs  
 Color: WW/DL/CW

save as much as  
**70%**  
 on your light bill.



**Also available in DC 12V !**



**INDOOR LIGHTS**