

PV SOLUTIONS

Catalogue

Complete solar energy solutions ready for installation.
All in one package, more cost effective, free design, easy to distribute.





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Our Vision

To simplify the solar energy experience.

Our Mission

As pioneers in the manufacturing of PV system kits and solar energy solutions, we are committed to innovation by providing easy to use renewable energy products to an all-sustainable world.

Our Company

Sunpal Power is a global leading solar photovoltaic solution supplier including off grid solar solution, on grid solar solution, hybrid solar solution and solar pumping solution. Founded in 2008, we set up high efficiency solar module factory in Jiangsu province. At 2012, Sunpal Power global solar EPC center was founded at Hefei, Anhui province, together with numerous partners like SunGrow, Solis and Growatt, we provide comprehensive solar solutions for customers around the world.

Sunpal Power develops and produces solar photovoltaic (PV) modules with best quality on the market, ensuring secure long-term investments for our customers around the world. By utilizing top-tier module components and working alongside the industry's premier providers of balance of systems solutions, Sunpal Power is able to stay ahead of the demand curve and offer innovative, tailored PV technologies to meet customers' varying performance and aesthetic needs.

Furthermore, our in-house engineering & product development team ensure that every PV system is fully compatible for turnkey installations, which are manufactured under Sunpal Power's quality standards in its assembly facility.

Sunpal Power strives to provide leading solar energy solutions by offering install-ready PV System packages that can be drop shipped throughout the world.

Certification

Our PV Solutions and complete range of products, On-grid, Off-grid, Hybrid and Water Pumping PV Kits, include a wide variety of internal components and hardware that comply with global industry standards. We offer multiple certifications for all components in our product line that follow local standards and codes required for your specific regions or markets. This ensures safe installations and promotes optimal photovoltaic practices.



Warranty

Sunpal Power offers a complete line of warranties on all major products and components within our PV kits and solar energy solutions with optional extended warranties upon request.

2 Year

Off-Grid Inverter/Charger
Water Pump

3 Year

Water Pump Inverter
Lead Acid Batteries

5 Year

On-Grid Inverter
Hybrid Inverter
OPzV Batteries
Lithium Batteries

10 Year

On-Grid Inverter (Optional)
Lithium Batteries/Batteries (Optional)
Standard PV Module (Workmanship)
Mounting System

12 Year

Dual-Glass PV Module (Workmanship)

15 Year

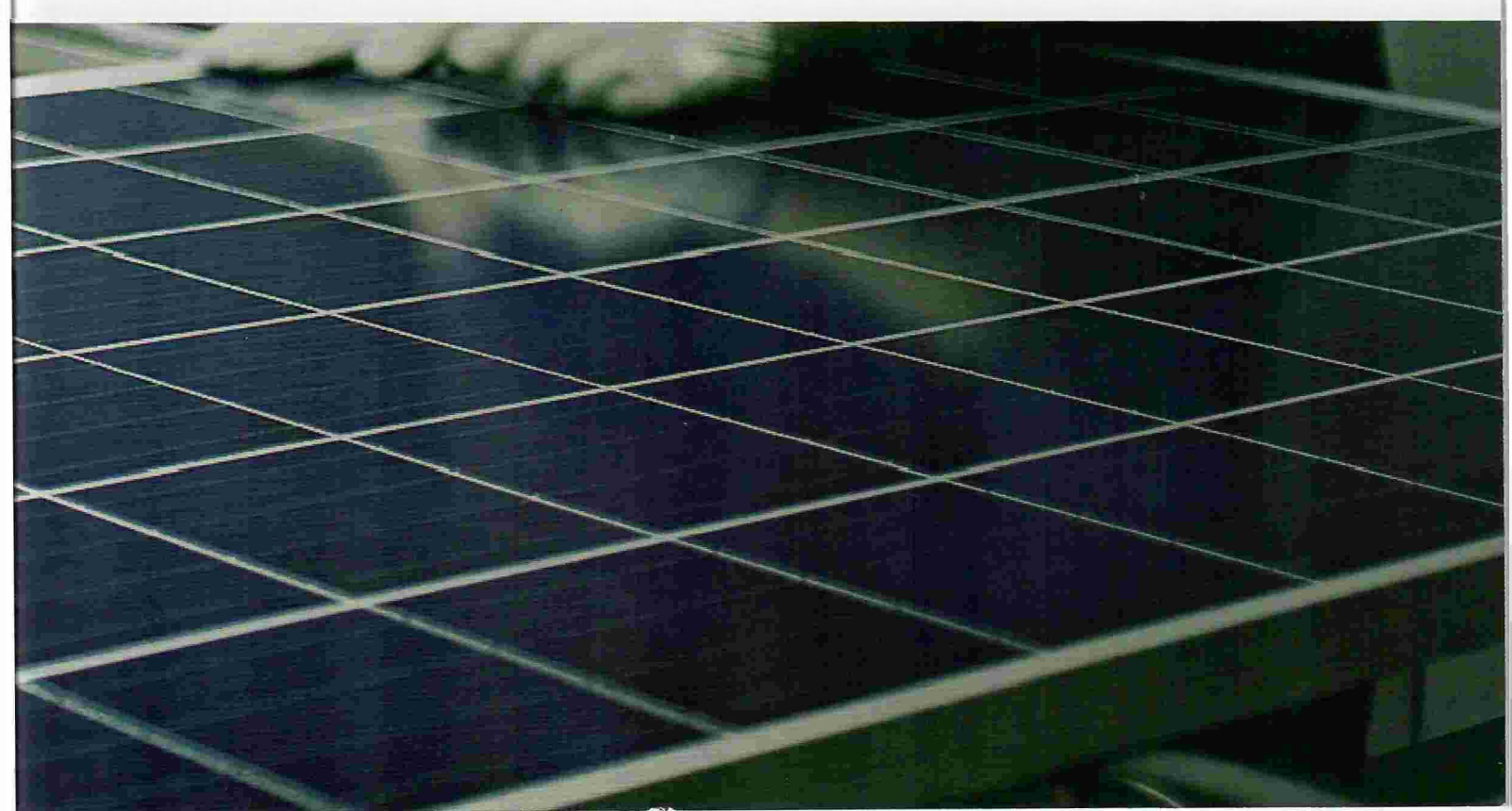
Dual-Glass PV Module (Power)
Mounting System (Optional)

25 Year

Standard PV Module (Power)

30 Year

Dual-Glass PV Module (Power)
Mounting System (Optional)



Our Products

Sunpal Power offers more than 5 different PV Kit product lines with multiple design configurations and a variety of component characteristics. Sunpal Power's ability to provide such flexibility creates a clear difference amongst its competitors and has proven to be an attractive and innovative choice within the Solar Industry.

Our Solar PV Kits are carefully selected and designed for compatibility, then packaged together for a single shipment. Our added value is created by offering pre-engineered solar energy systems (kits) that reduce the time and money required in the design, purchasing, and logistics of solar energy systems. Our specialized kit packaging allows our partners to safely and efficiently receive a complete turnkey (ready to install) PV system. Many of our PV Kits are shipped in an 'all in one box' configuration.

Every Sunpal Power product line is engineered with you in mind. Optimum flexibility in mounting systems, electrical layouts, and component certifications ensure each and every system delivered meets or exceeds your expectations.

Our PV systems are tailored for:

- Real Estate Developers and Architecture Firms
- EPC's
- Solar Roofing & HVAC Installation Companies/Contractors
- Distributors, Wholesalers, and Retailers
- Business Owners
- NGO's and Gov't Agencies

Our All In One Box

Pre-engineered kits include all necessary solar components allowing installers and distribution companies to save both time and money when handling storing and installing the projects

 **RESIDENTIAL**
ON-GRID

 **COMMERCIAL**
ON-GRID

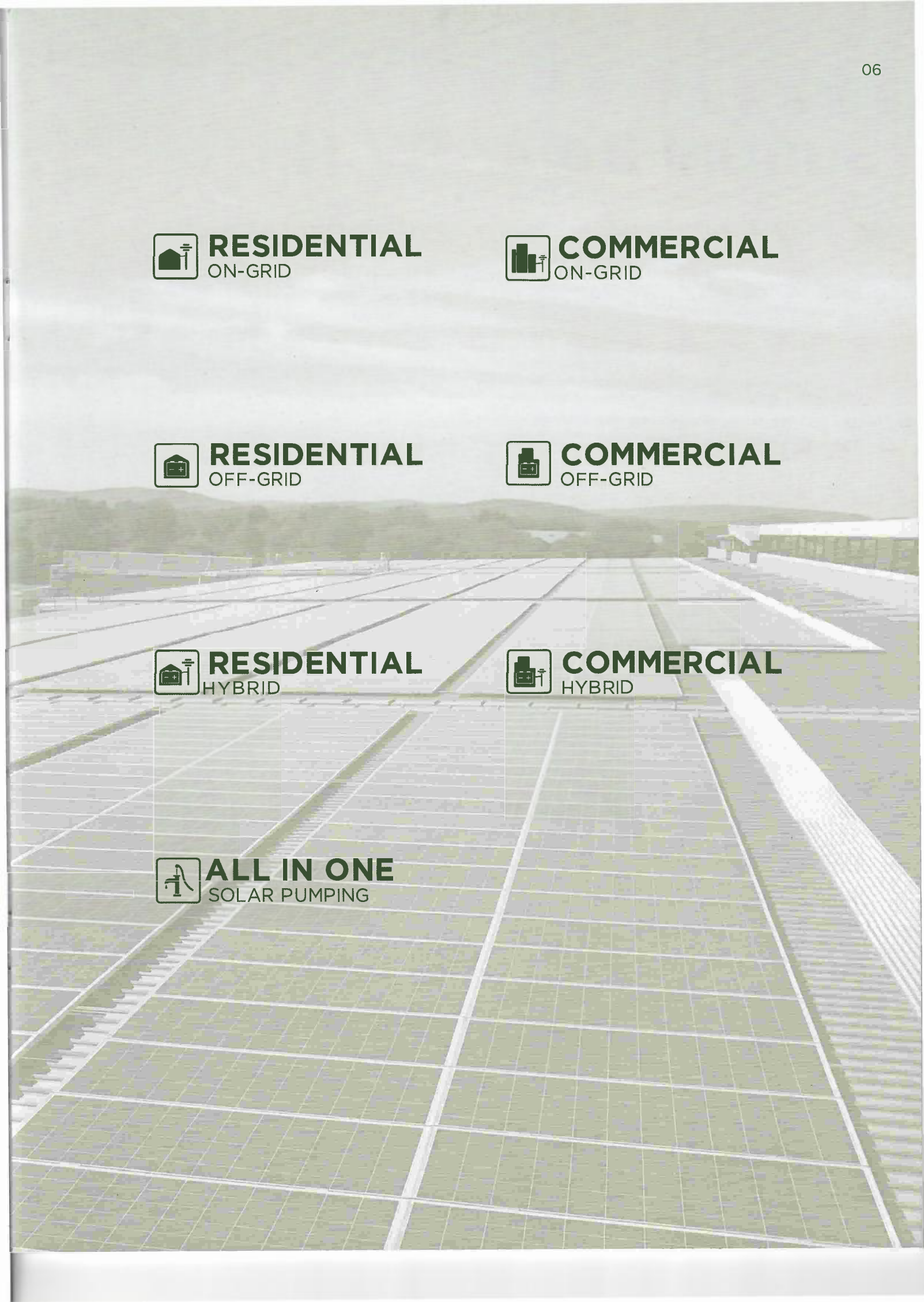
 **RESIDENTIAL**
OFF-GRID

 **COMMERCIAL**
OFF-GRID

 **RESIDENTIAL**
HYBRID

 **COMMERCIAL**
HYBRID

 **ALL IN ONE**
SOLAR PUMPING



Sunpal Solar PV Kit

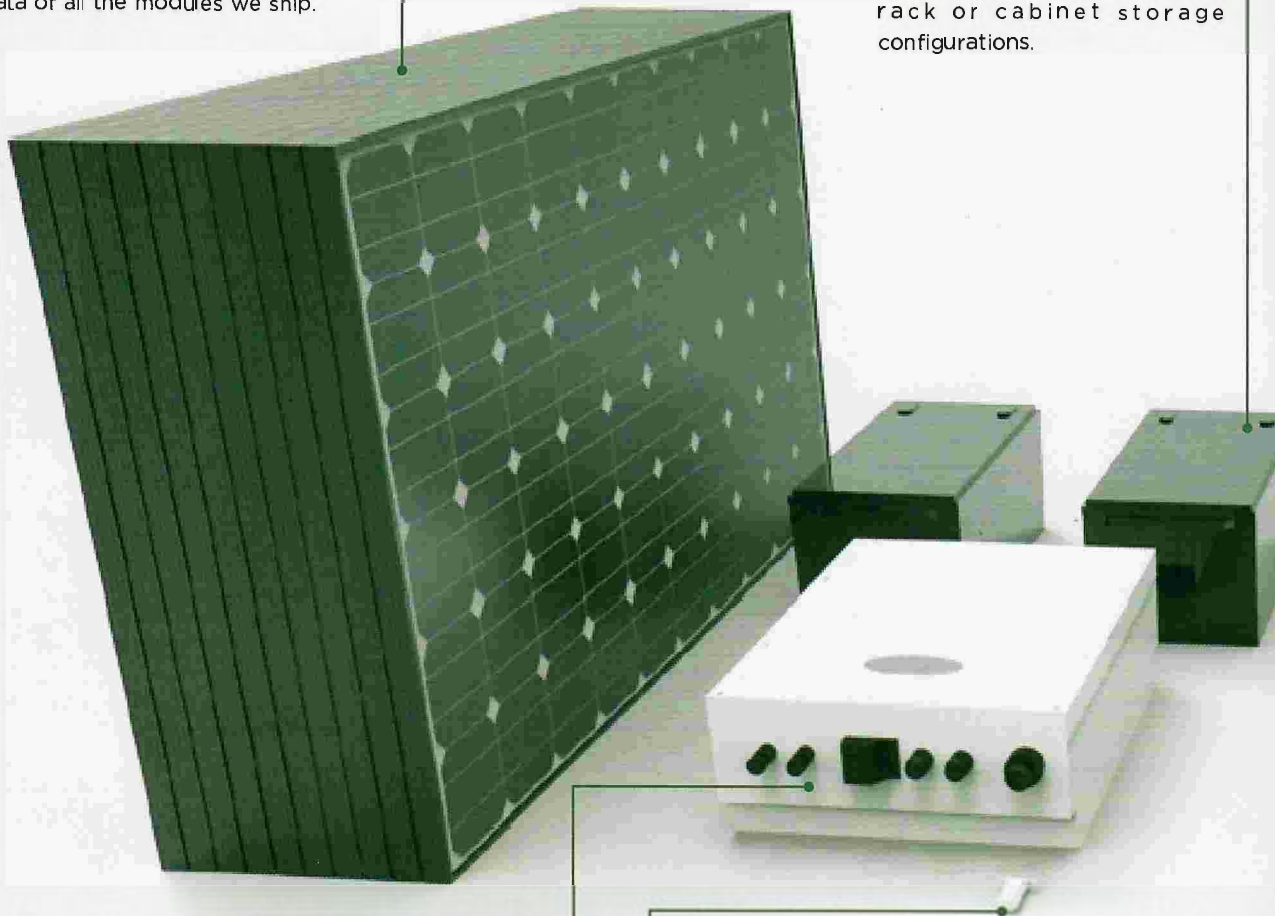
PV Modules

We at Sunpal Power know that the heart of a PV system comes from the Photovoltaic module. Using state of the art technology, we offer both Monocrystalline and Polycrystalline cell technology in either white, black, or glass back-sheets. We are adamant about manufacturing consistency and module durability and offer all our partners comprehensive flash test data of all the modules we ship.

Batteries

The future of energy storage is here. Offering a variety of high efficiency, cost competitive battery technologies including Lead Acid Carbon Gel and Li-Ion (LiFePO4).

We offer our battery systems preconfigured in both Li-Ion and Lead Acid mounted using either rack or cabinet storage configurations.



Inverters

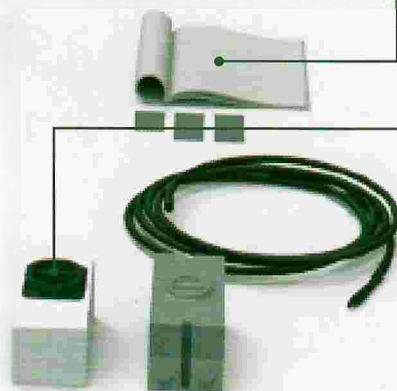
Packed full of innovative technology, Sunpal Power offers a range of variable power inverters in both single and three phase AC. Code compliant to every market we offer inverters with transformer-less design which means both reduced weight and higher efficiency. Maximum power production is achieved by offering wider input voltages and operating temperature ranges.

Monitoring System

Ideal for residential and commercial PV applications, PV system monitoring offers live performance data via the internet of the inverter and battery bank (depending on system type). Automatic alarms can keep users informed of performance, related issues and help increase production yields. PV array power, current, and voltage can be easily monitored and stored for later energy auditing.

Technical Documents

All Sunpal Power PV Kits contain full installation documentation, including both electrical, mechanical and a step-by-step guide to the proper installation instructions.



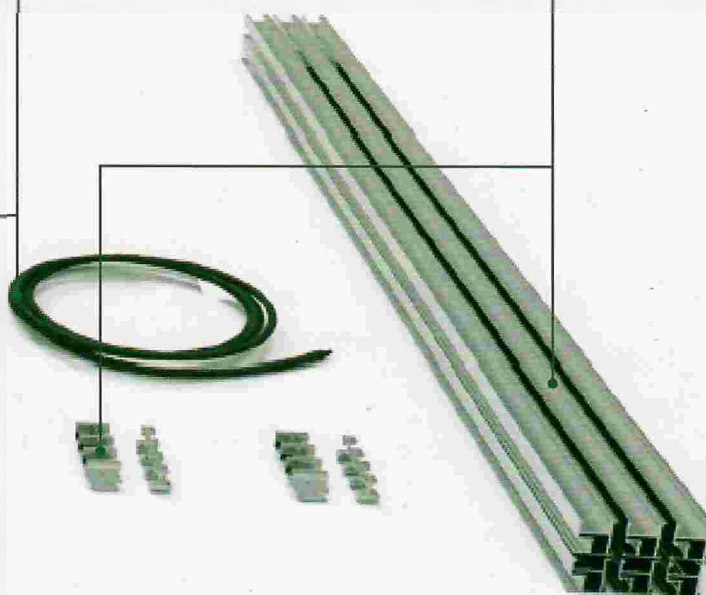
BOS Components

Sunpal Power's Balance of System Components connect and add versatility to all our PV systems.

Attention to detail in our BOS component selection allows for an easier and more seamless installation. Safety matched with functionality allows for easier plug and play installation while maintaining the all in one solution that you come to expect from Sunpal Power. Our BOS Technologies provide the innovative solutions you're looking for, enabling your project run smoother, faster and more profitable than ever before.

We optimize the entire balance of system—which consists of

- AC/DC Disconnect
- PV Wiring Harness - MC4 Connection
- Battery harnesses
- Label Pack

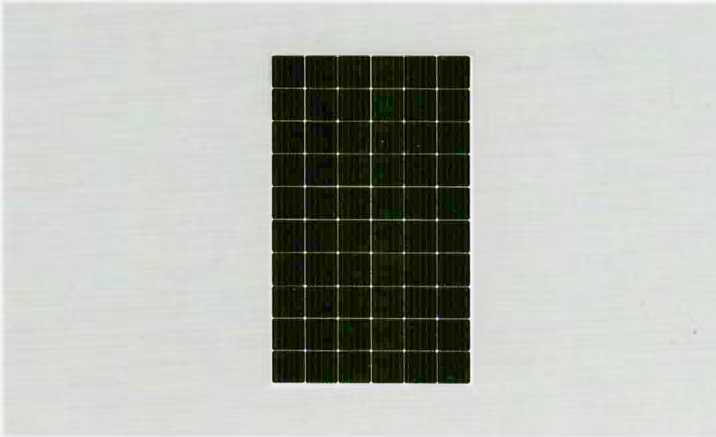


Mounting System

Sunpal Power's mounting systems act as the backbone of our PV Kits and Custom Solar Energy Solutions.

Engineered for durability and designed for simplicity, Sunpal Power uses only the highest quality materials in its mounting systems.

We have developed stronger, more reliable 100% waterproof, code compliant PV mounting systems for rooftops, carports, and ground mounted PV systems.



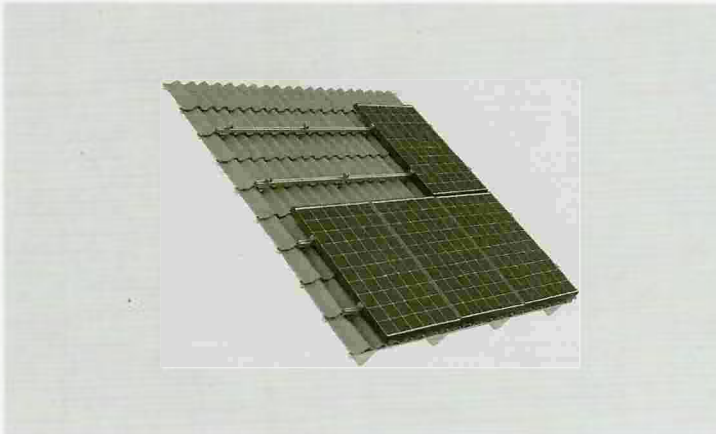
PV Modules

FEATURES

- Positive power tolerance modules ensure that all our projects perform as designed
- High power output and conversion efficiency
- Excellent mechanical load resistance

OPTIONS

- Monocrystalline, Polycrystalline and BIPV (glass-glass)
- White or Black modules
- IEC, TUV, UL, CE, ISO, CEC, INMETRO



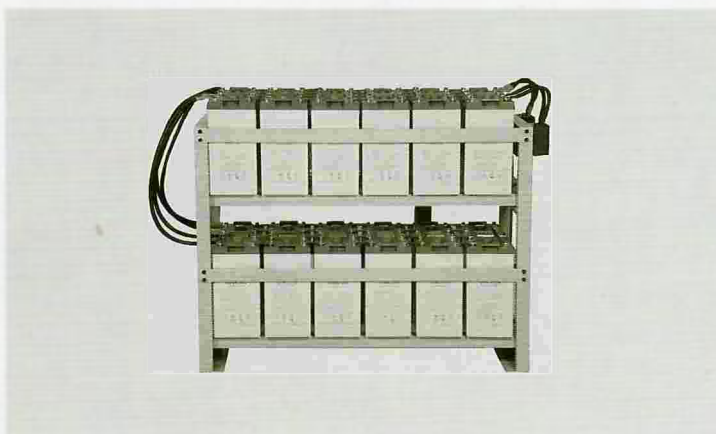
Mounting System

FEATURES

- Wide application flexibility - mounts for all roof types or ground
- Extensive pre-design for fast assembly and installation
- Superior durability and longevity

OPTIONS

- Pitched roof, flat roof, pole mount, ground mount
- A variety of different roof connectors and zero penetration ballast system
- Aluminum or galvanized steel



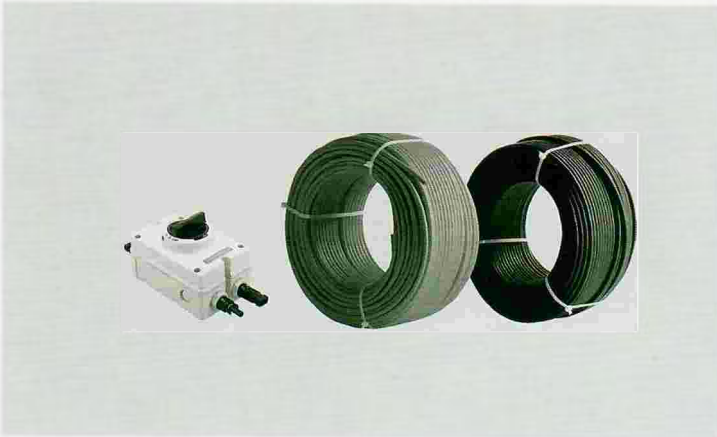
Batteries

FEATURES

- Gel Lead Acid or Li-Ion technology
- Excellent deep discharge recovery with fast recharge performance
- Large DoD allowing larger energy storage and usage

OPTIONS

- Battery Monitoring including current, voltage, and temperature
- Modular design allows for future energy storage add-ons



BOS Components

FEATURES

- Wide application flexibility
- Superior safety, durability, and longevity
- AC/DC disconnects, wiring harnesses, MC4 connectors, wire, safety label packs, MC4 connector tools

OPTIONS

- AC/DC disconnects, wiring harnesses
- Grounding hardware
- PV tools



Monitoring System

FEATURES

- Quick installation and easy operation
- Free online monitoring via phone App or desktop
- Free and user-friendly visualization of performance data via Internet

OPTIONS

- Wi-Fi or GPRS technology data logging functionality
- Download and view generation statistics offline



Inverters

FEATURES

- Exceptionally wide input voltage ranges for higher yields
- MC4 quick connect for easy string connection
- CE, IEC, TUV, UL, ISO, CEC and more

OPTIONS

- Monitoring options allow for better performance collection and project oversight
- Dual MPPT technology provides numerous layout
- On-Grid, Off-Grid, Hybrid, and Water Pumping

ALL IN ONE SOLAR SYSTEM

Residential On Grid
Photovoltaic Solar System Kit

RESIDENTIAL ON GRID

3KW-5KW-10KW

Product Description

Sunpal Power's Residential Solar PV Kits are the most cost effective and easy PV solutions available for home use. They are ideally suited for any household that is looking to reduce energy costs using an efficient and clean energy system.

Sunpal Power's grid-tied solar power systems are directly connected to the home's electric panel and electric utility grid. Our grid-tied systems allow homeowners to get power from either their solar electric system or the utility grid, switching seamlessly between the grid-tied PV system and the grid. When your grid-tied system is producing more power than your home is consuming, the excess power can often be sold back to the utility in a practice known as net metering. When your system is not producing sufficient power or during non-daylight hours, your home can draw power from the utility grid.



Product Benefits

- Generate your own electricity from home and reduce your electric bill
- Increase the value of your home
- Hedge yourself against future utility increases
- Reduce your carbon footprint

Common Application

- Homes
- Villas
- Out buildings
- Garages
- Apartments



PV Kits Include

- Solar modules
- Solar on-grid inverter
- Custom mounting system
- PV & ground wiring harnesses
- DC and AC disconnects
- Wire management kits



PRODUCT MODEL	SP3KW-ON	SP5KW-ON	SPI0KW-ON
PV System Size Nominal(kWp)	3.36	5.68	11.2

PV MODULE SPECIFICATIONS(*Mono)

Power (W)	280		
Vmp (V)	31.8		
Voc (V)	38.8		
IsC (A)	9.33		
Imp (A)	8.81		
Dimensions (L x W x H) (mm)	1650*992*35		
PV Module weight (kg)	18.6		
Certifications	CE / TUV (IEC 61215 & IEC 61730) / UL (UL1703)		

*Polycrystalline PV modules also available up on request

INVERTER SPECIFICATIONS

Inverter Size (kW)	3	5	10
Max DC Power (W)	3500	5800	11500
Max DC Voltage (V)	600		
MPPT Voltage Range (V)	80-500	100-500	100-500
No. of MPPTS	1	2	3
Max AC Power (kVA)	3.3	5	10
Max Output Current (A)	15.7	21.7	45.9
AC Nominal Voltage/Voltage Range (V)	230 / 160 - 285		
AC Grid Frequency Range (Hz)	50 / 60		
Number of Phases	1		
Dimensions (W x H x D) (mm)	310 x 373 x 160	310 x 543 x 160	333 x 573 x 160
Inverter Weight (kg)	7.7	11.5	18
Certifications	UL 1741 / UL 1998 / UL 1699B / IEEE 1547 / FCC Part 15 (Class A & B) / CAN / CSA C2 EN50438 / G83/2 / G59/3 / AS4777.2: 2015 / VDE0126-1-1 / IEC61727 / VDEN4105		

*120V/240V UL inverters also available upon request

BOS

DC/AC Disconnect	1/1	2/1	4/1
*PV Wire Harness - 4mm ² (m)	100	200	400
*Ground Wire - 4mm ² (m)	30	50	100

*Extra wire is available up request

SYSTEM LAYOUT

Number of Modules	12	20	40
Number of Inverters	1	1	1
PV Array Surface Area (m ²)	20.4	34	68
PV Array Weight (kg)	223.2	372	744
PV Module String Configuration	No. of PV Modules / String	12	10
	Total Strings	1	2
600VDC	String Voc (V)	465.6	388
	String Vmp (V)	381.6	318
	String Imp (A)		8.81

PRODUCTION ESTIMATES (kWh AC)

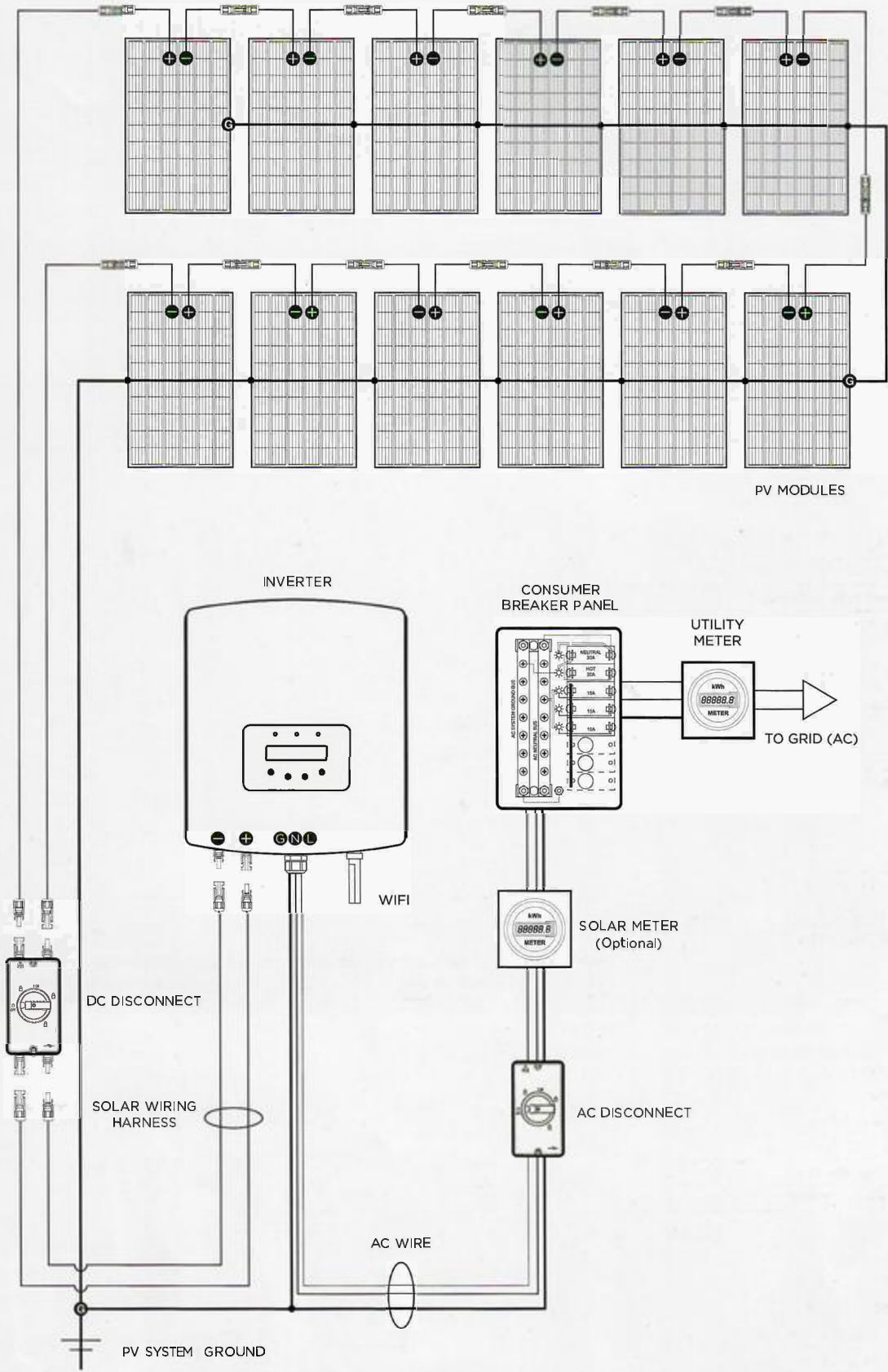
*Projectd Yearly Output at 4 PSH / Day	11.4	19.3	38.1
*Projectd Yearly Output at 5 PSH / Day	14.3	24.1	47.6
*Projectd Yearly Output at 6 PSH / Day	17.1	29.0	57.1

*Based on 85% system efficiency (formula = DC Power x Peak Sunshine Hours / Day x System Efficiency) (PSH = Peak Sunshine Hours)

SYSTEM OPTIONS

Monitoring Device	Wi-Fi Model or GPRS Model
PV Module Type	Monocrystalline(Poly also available upon request)
Mounting System Types	Metal Roof, Asphalt Shingle, Tile Roof, Tin Roof, Flat Concrete Roof, Ground

SP3KW-ON



SHIPPING

PV Kit Weight (kg)	375	585	1160
PV Kit Shipping Size(L x W x H)(m)	1.7 x 0.7 x 1	1.7 x 1.1 x 1	1.7 x 1.1 x 1
Total Number of Boxes	1	1	2



COMPLETE SOLAR SYSTEM

Commercial On Grid Photovoltaic Solar System

COMMERCIAL ON GRID

10KW-20KW-30KW
50KW-100KW-500KW

Product Description

Sunpal Power's Commercial Solar PV System are ideally suited for any business that is looking to reduce rising energy costs and hedge against future energy inflation. Our pre-engineered kits are suitable for most installation sites including commercial roof tops and ground mounting locations.

Sunpal Power's Commercial Solar PV System include all the necessary BOS components making turnkey projects that much easier. Choose from our standard line of pre-configured commercial kits or let us design a 10kW to 500kW customized project that fits your specific installation requirements. We offer flexibility in design and product selection that will ensure success in any solar project.



Product Benefits

- Hedge yourself against future utility increases
- Sell excessive power back to the utility grid (requires net metering)
- Solar modules have up to a 25 years warranty and a typical lifetime of 40+ years
- Reduce your building's operating costs
- Low maintenance/high reliability

Common Application

- Factories
- Distribution centers
- Shopping centers
- Office buildings
- Libraries
- Warehouses
- Schools





PV Kits Include

- Solar modules
- Solar on-grid inverter
- Custom mounting system
- PV & ground wiring harnesses
- DC and AC disconnects
- Wire management kits



PRODUCT MODEL	SP10KW3-ON	SP20KW3-ON	SP30KW3-ON	SP50KW3-ON	SP100KW3-ON	SP500KW3-ON
PV System Size Nominal(kWp)	11.2	22.4	33.6	56	112	560

PV MODULE SPECIFICATIONS(*Mono)

Power (W)	280
Vmp (V)	31.8
Voc (V)	38.8
Isc (A)	9.33
Imp (A)	8.81
Dimensions (L x W x H) (mm)	1650*992*35
PV Module weight (kg)	18.6
Certifications	CE/ TUV (IEC 61215 & IEC 61730) / UL (UL1703)

*Polycrystalline PV modules also available up on request

INVERTER SPECIFICATIONS

Inverter Size (kW)	10	20	30	50
Total Number of Inverters	1			1 2 10
Max DC Power (W)	11.5	23	34	55
Max DC Voltage (V)	1000			1100
MPPT Voltage Range (V)	200-800			200-1000
No. of MPPTS/Max Strings	2 / 4	4 / 8	4 / 8	4 / 12
Max AC Power (kW)	11	22	33	50
Max Output Current (A)	16.7	33.3	50	80
AC Nominal Voltage/Voltage Range (V)	400 / 313 - 470			400 / 304 - 460
AC Grid Frequency Range (Hz)	50/60			50/60
Number of Phases	3			3
Dimensions (W x H x D) (mm)	430 x 613 x 269	530 x 700 x 357	530 x 700 x 357	630 x 700 x 357
Inverter Weight (kg)	39	57.2	58.2	53
Certifications	UL 1741 / UL 1998 / UL 1699B / IEEE 1547 / FCC Part 15 (Class A & B) / CAN / CSA C2 EN50438 / G83/2 / G59/3 / AS4777.2: 2015 / VDE0126-1-1 / IEC61727 / VDEN4105			

*240V/480V UL inverters also available upon request

BOS

DC/AC Disconnect	2 / 1	4 / 1	6 / 1	10 / 1	20 / 2	100 / 10
*PV Wire Harness - 4mm ² (m)	200	400	600	1000	2000	10000
*Ground Wire - 4mm ² (m)	100	100	200	300	400	1000

*Extra wire is available up request

SYSTEM LAYOUT

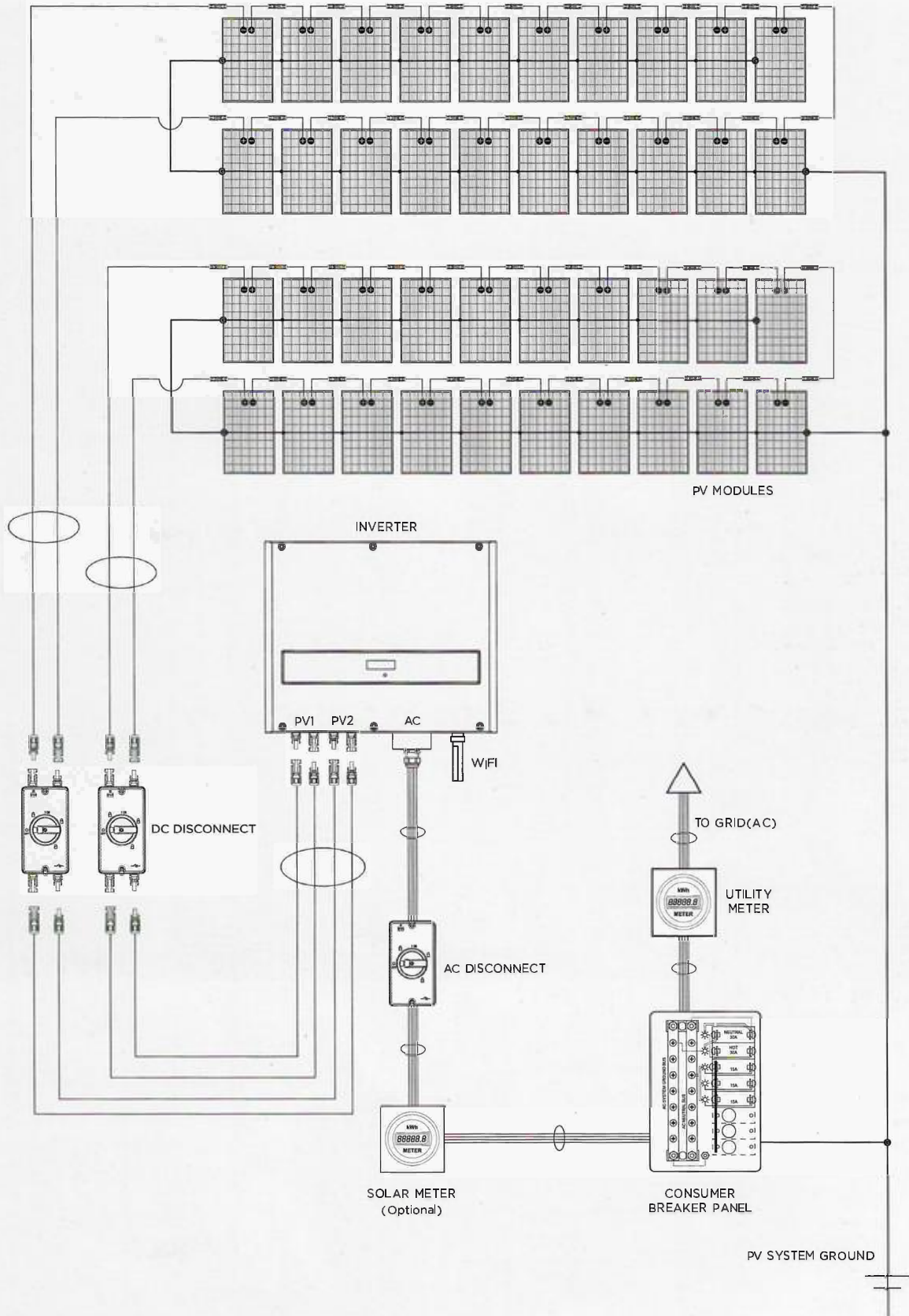
Number of Modules	40	80	120	200	400	2000
Number of Inverters	1			1	2	10
PV Array Surface Area (m ²)	68	136	204	340	680	3400
PV Array Weight (kg)	744	1488	2232	3720	7440	37200
PV Module	No. of PV Modules / String	20			20	
	Total Strings	2	4	6	10	20 100
String	String Voc (V)	776				
Configuration	String Vmp (V)	636				
	String Imp (A)	8.81				

PRODUCTION ESTIMATES (kWh AC)

*Projectd Yearly Output at 4 PSH / Day	38.1	76.2	114.2	190.4	380.8	1904
*Projectd Yearly Output at 5 PSH / Day	47.6	95.2	142.8	238.0	476.0	2380
*Projectd Yearly Output at 6 PSH / Day	57.1	114.2	171.4	285.6	571.2	2856

*Based on 85% system efficiency (formula = DC Power x Peak Sunshine Hours / Day x System Efficiency) (PSH = Peak Sunshine Hours)

SP10KW3-ON



SYSTEM OPTIONS

Monitoring Device	Wi-Fi Model or GPRS Model
PV Module Type	Monocrystalline or Polycrystalline 60 / 72 Cells
Mounting System Types	Metal Roof, Asphalt Shingle, Tile Roof, Tin Roof, Flat Concrete Roof, Ground

ALL IN ONE SOLAR SYSTEM

Residential Off Grid
Photovoltaic Solar System Kit

RESIDENTIAL OFF GRID

1KW-2KW-3KW-5KW

Product Description

Total electrical independence starts here. Sunpal Power has carefully designed and engineered all of our pre-packaged off-grid solar power systems to be faster and easier to install. Our Off-Grid solar kits produce zero emissions, are noiseless, and equipped with all-in-one packaging solution for quick and easy installation.

Standard Grid-tie systems will not provide electricity directly to your house during a power outage due to safety regulations(anti-islanding) even if the solar modules are producing DC current. Our Off-Grid systems are independent of the standard utility grid, and can typically deliver the equivalent expectations of the traditional grid.

Whether you will be using an off-grid solar system for your remote cabin, your place of business, or your full-time residence, Sunpal Power has an off grid solution that can fit almost any installation requirement. Sunpal Power's off-grid kits have the capability to be expanded if future energy storage is required.



Product Benefits

- Become completely energy independent
- Reduce the burning of fossil fuels for a healthier environment
- Eliminate the problems of grid blackouts

Common Application

- Installation sites where bringing in the electricity from the grid is too expensive or difficult
- Locations where liquid fuel costs are too high or difficult to maintain
- Those looking to be completely independent from the grid
- Those who cannot afford to lose power or have power outages



PV Kits Include

- Solar modules
- Off-Grid inverter/charger
- Custom mounting system
- Battery bank
- PV battery bank & ground wiring harnesses
- Wire management kits





PRODUCT MODEL	SP1KW-OFF	SP2KW-OFF	SP3KW-OFF	SP5KW-OFF
PV System Size Nominal (Inverter Power) (kWp)	2	2	3	5

PV MODULE SPECIFICATIONS (*Mono)

Power(W)	280			
Vmp(V)	31.8			
Voc(V)	38.8			
Isc(A)	9.33			
Iimp(A)	8.81			
Dimensions (L x W x H) (mm)	1650*992*35			
PV Module weight (kg)	18.6			
Certifications	CE / TUV (IEC 61215 & IEC 61730) / UL (UL1703)			

*Polycrystalline PV modules also available up on request

INVERTER SPECIFICATIONS

Inverter Continuous Power (W)	2000	2000	3000	5000
Peak Power (W)	6000	6000	9000	15000
Adjustable Model	MPPT+Inverter / AC+Inverter / MPPT+AC+Inverter			
AC Voltage (V)	110 - 250 (Adjustable)			
AC Frequency (Hz)	50 / 60 (Adjustable)			
Battery Voltage (V)	24	48	48	48
MPPT Charge Current (A)	40	40	40	60
PV Input Power (W)	≤1000	≤2000	≤2000	≤3600
PV Voltage Range (V)	36-150			
AC Charge Current (A)	25	15	15	15
Maximum Charge Current (A)	65	55	55	75
Wave Form	Pure Sine Wave			
Typical Transfer Time (Ms)	0			
Dimensions (W x H x D) (mm)	540*450*200	540*450*200	600*450*200	650*450*200
Inverter Weight (kg)	10.35	10.35	11.9	13.8

BATTERY BANK SPECIFICATIONS

Battery Type	Lead Acid Gel(VRLA)			
Battery Voltage (V)	12			
Battery Bank Voltage (V)	24	48	48	48
Battery Capacity (Ah)	200			
Battery Bank Capacity (Ah)	200	200	200	400
Battery Bank Power - Total (Wh)	4800	9600	9600	19200
Battery Bank Power - 50% DOD (Wh)	2400	4800	4800	9600
Battery Dimensions (L x W x H) (mm)	522 x 240 x 224			
Battery Weight (kg)	60			
Full Cycles (50% DOD)	1500			
Total Batteries- *storage can be increased	2	4	4	8
Connection	Series			
Certifications	CE / RU / ISO 14001 / OHSAS 18001			

BOS

Main Disconnect Box(or Breakers)	Yes			
*PV Wire Harness - 4mm ² (m)	100	200	200	300
*Ground Wire - 4mm ² (m)	10	20	20	30

*Extra wire is available up request

SYSTEM LAYOUT

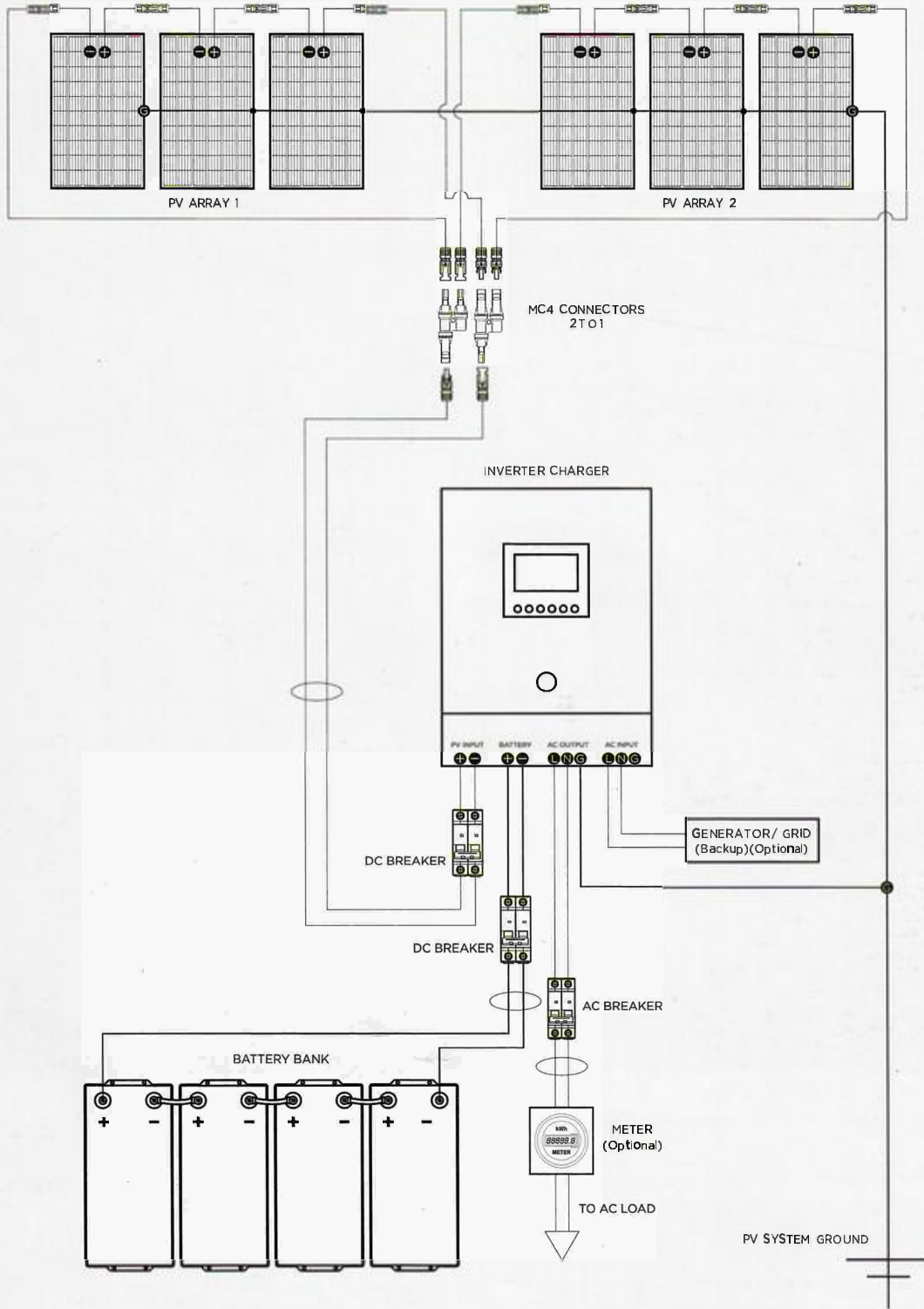
Number of Modules	3	6	6	9
Number of Inverters	1			
PV Array Surface Area (m ²)	5.1	10.2	10.2	15.3
PV Array Weight (kg)	55.8	111.6	111.6	167.4
PV Module	No. of PV Modules / String	3		
	Total Strings	1	2	3
String	String Voc (V)	116.4		
	String Vmp (V)	95.4		
Configuration	String Imp (A)	8.81		

PRODUCTION ESTIMATES (kWh AC)

*Projectd Yearly Output at 4 PSH / Day	2.9	5.8	5.8	8.7
*Projectd Yearly Output at 5 PSH / Day	3.6	7.2	7.2	10.8
*Projectd Yearly Output at 6 PSH / Day	4.3	8.4	8.4	12.9

*Based on 85% system efficiency (formula = DC Power x Peak Sunshine Hours / Day x System Efficiency) (PSH = Peak Sunshine Hours)

SP3KW-OFF



SYSTEM OPTIONS

Monitoring Device	FS485			
PV Module Type	Monocrystalline (Poly also available upon request)			
Mounting System Types	Metal Roof, Asphalt Shingle, Tile Roof, Tin Roof, Flat Concrete			
AC Back Up Input	Utility Grid / Power Generator			
Battery	12V Gel / 2V Gel / Tubular Gel (OPzV)			

SHIPPING

PV Kit Weight (kg)	248.5	463.4	463.4	696.5
PV Kit Shipping Size	1.7 x 0.45 x 1	1.7 x 0.6 x 1	1.7 x 0.6 x 1	1.7 x 0.75 x 1
Total Number of Boxes	1	2	2	2

COMPLETE SOLAR SYSTEM

Commercial Off Grid
Photovoltaic Solar System

COMMERCIAL OFF GRID

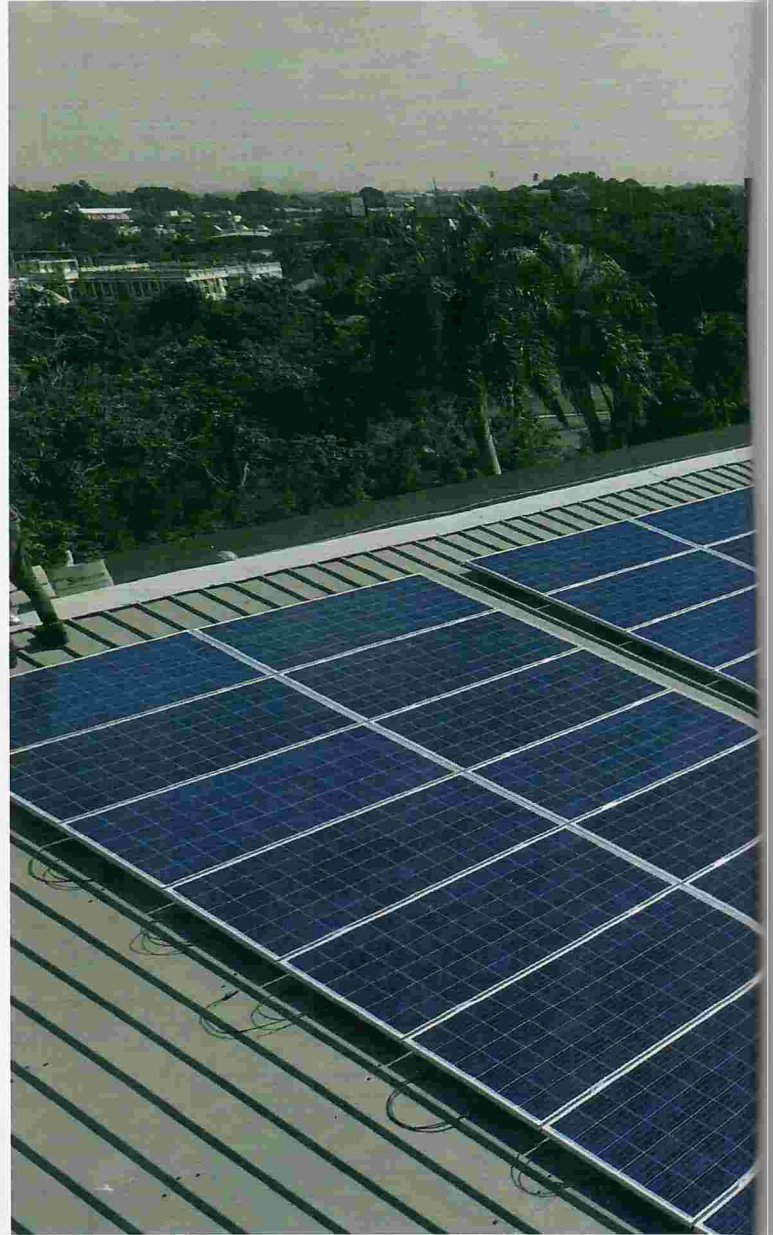
10KW-20KW-30KW
40KW-50KW-60KW

Product Description

Total electrical independence starts here. Sunpal Power has carefully designed and engineered all of our pre-packaged off-grid solar power systems to be faster and easier to install. Our Off-Grid solar kits produce zero emissions, are noiseless, and quipped with all-in-one packaging solution for quick and easy installation.

Standard Grid-tie systems will not provide electricity directly to your house during a power outage due to safety regulations(anti-islanding) even if the solar modules are producing DC current. Our Off-Grid systems are independent of the standard utility grid, and can typically deliver the equivalent expectations of the traditional grid.

Whether you will be using an off-grid solar system for your remote cabin, your place of business, or your full-time residence, Sunpal Power has an off grid solution that can fit almost any installation requirement. Sunpal Power's off-grid kits have the capability to be expanded if future energy storage is required.



Product Benefits

- Become completely energy independent
- Reduce the burning of fossil fuels for a healthier environment
- Eliminate the problems of grid blackouts

Common Application

- Installation sites where bringing in the electricity from the grid is too expensive or difficult
- Locations where liquid fuel costs are too high or difficult to maintain
- Those looking to be completely independent from the grid
- Those who cannot afford to lose power or have power outages



PV kits Include

- Solar modules
- Off-Grid inverter/charger
- Custom mounting system
- Battery bank
- PV combiner box
- PV, battery bank & ground w.rng harnesses
- Wire management kits





PRODUCT MODEL	SP10KW3-OFF	SP20KW3-OFF	SP30KW3-OFF	SP40KW3-OFF	SP50KW3-OFF	SP60KW3-OFF
PV System Size Nominal (Inverter Power) (kVA)	10	20	30	40	50	60

PV MODULE SPECIFICATIONS (*Mono)

Power(W)	280					
Vmp(V)	31.8					
Voc(V)	38.8					
Isc (A)	9.33					
Imp(A)	8.81					
Dimensions (L x W x H) (mm)	1650*992*35					
PV Module weight (kg)	18.6					
Certifications	CE / TUV (IEC 61215 & IEC 61730) / UL (UL1703)					

*Polycrystalline PV modules also available up on request

INVERTER/CHARGER SPECIFICATIONS

Rated Output Power (kVA / kW)	10 / 8	20 / 16	30 / 24	40 / 32	50 / 40	60 / 48
Peak Power (kVA / kW)	30 / 24	60 / 48	90 / 72	120 / 96	150 / 120	180 / 144
Over Load Capacity	105%-110%, 10mins; 110%-125%, 1min; >125%, 10s					
AC Voltage	3/N/PE, 380 / 400 / 415VAC ±2%					
AC Frequency (Hz)	50 / 60 ±5%					
Battery Voltage (V)	220			348		
MPPT Charge Current (A)	50	100	150	120	160	160
PV Input Power (W)	11000	22000	33000	48000	64000	64000
PV Voltage Range (V)	250 - 450			420 - 650		
Protections	Input over/under voltage, output over/under voltage, overload, short circuit over temperature, reverse polarity, lightning surge protection					
Wave Form	Pure Sine Wave					
Display	LCD+ LED					
Dimensions (W x H x D) (mm)	550 x 600 x 1450			600 x 600 x 1600		
Inverter Weight (kg)	210	230	250	320	350	380

BATTERY BANK SPECIFICATIONS

Battery Type	Lead-acid gel					
Battery Voltage (V)	2					
Battery Bank Voltage (V)	220			348		
Battery Current (Ah)	200	400	600	600	800	1000
Battery Bank Current (Ah)	200	400	600	400	600	600
Battery Bank Power- Total (Wh)	44000	88000	132000	139200	208800	208800
Battery Bank Power - 50% DOD (Wh)	22000	44000	66000	69600	104400	104400
Battery Dimensions (L x W x H) (mm)	172.5 x 110 x 351	271 x 176 x 353	302 x 175 x 353	271 x 176 x 353	302 x 175 x 353	302 x 175 x 353
Battery Weight (kg)	14	26	37	26	37	37
Full Cycles (50% DOD)	1800					
Total Batteries - *storage can be increased	110			174		
Connection	Series					
Certifications	CE / RU / ISO 14001 / OHSAS 18001					

BOS

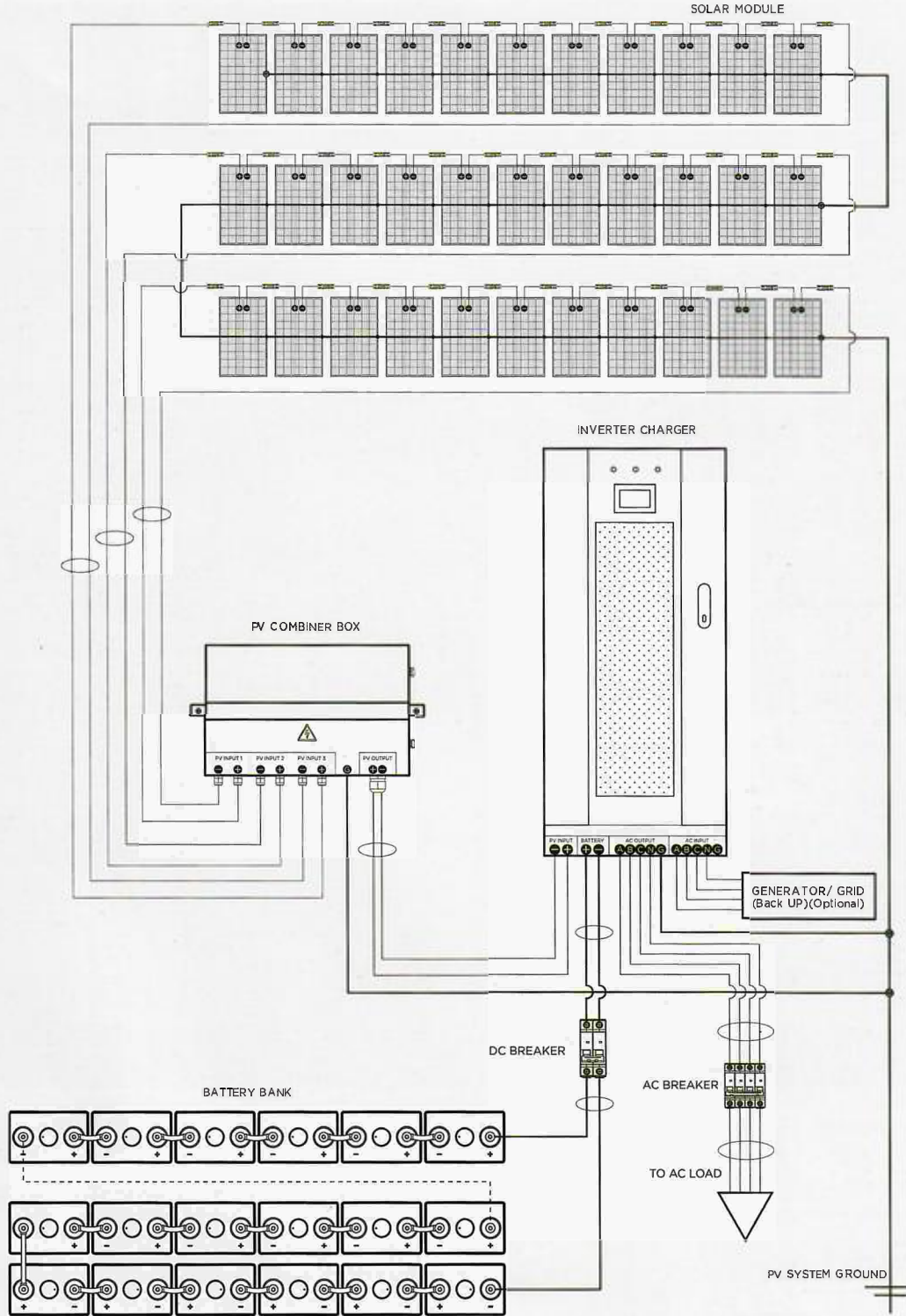
PV Combiner Box (Type / #)	3 to 1 / 1	3 to 1 / 2	3 to 1 / 3	3 to 1 / 3	3 to 1 / 4	3 to 1 / 4
*PV Wire Harness - 4mm ² (m)	300	600	900	900	1200	1200
*DC Wire (Combiner Box to Inverter) - 10mm ² (m)	100	200	300	300	400	400
*Ground Wire - 4mm ² (m)	100	200	300	400	500	500
PV Mounting System	Customized					
Battery Bank Rack	Customized					

*Extra wire is available up request

SYSTEM LAYOUT

Number of Modules	33	66	99	144	192	192
Number of Inverters	1					
PV Array Surface Area (m ²)	56.1	112.2	168.3	244.8	326.4	326.4
PV Array Weight (kg)	613.8	1227.6	1841.4	2678.4	3571.2	3571.2
PV Module	No. of PV Modules / String	11				
	Total Strings	3	6	9	9	12
String	String Voc (V)	426.8				620.8
Configuration	String Vmp (V)	349.8				508.8
	String Imp (A)	8.31				8.31

SP10KW3-OFF



PRODUCTION ESTIMATES (kWh AC)

*Projectd Yearly Output at 4 PSH / Day	31.4	62.8	94.2	137.1	182.8	182.8
*Projectd Yearly Output at 5 PSH / Day	39.3	78.5	117.8	171.4	228.5	228.5
*Projectd Yearly Output at 6 PSH / Day	47.1	94.2	141.4	205.6	274.2	274.2

*Based on 85% system efficiency (formula = DC Power x Peak Sunshine Hours / Day x System Efficiency) (PSH = Peak Sunshine Hours)

SYSTEM OPTIONS

Monitoring Device	RS485
PV Module Type	Monocrystalline(Poly also available upon request)
Mounting System Types	Metal Roof, Asphalt Shingel, Tile Roof, Tin Roof, Flat Concerte Roof, Ground
AC Back Up Input	Power Generator / Utility Grid
Battery	12V Gel/ 2V Gel/ Tubular Gel (OPzV)

ALL IN ONE SOLAR SYSTEM

Residential Hybrid
Photovoltaic Solar System Kit

RESIDENTIAL HYBRID

3KW-5KW-10KW

Product Description

Sunpal Power's Hybrid PV kits combine the innovation of both on-grid and off-grid technologies and are offered as grid-tied solar with battery storage. Similar to the on-grid benefits, Sunpal Power's hybrid systems generate power that can be used and/or stored using either a Lithium Iron Phosphate Battery Bank or Lead Acid Gel Battery Bank. Any excess energy can be sold back to the utility company (if net metering is available), when the utility rates are higher thus lowering your return on investment.

Our hybrid systems seamlessly adjust to fluctuations in power from both the utility and the solar array maximizing the energy storage and consumption. With a number of different configuration settings users can decide when and how much energy is stored or sold back to the utility. Integration has never been easier or more simplified, our single unit inverter allows seamless integration with solar array and battery bank.



Product Benefits

- Can operate in on-grid or off-grid mode
- Sell power back to the grid or store excess power for later use
- Use grid power or solar energy to charge the battery bank

Common Application

- Residential locations with unstable grids
- Locations that do not allow net metering
- People who want to take advantage of the utility rate changes
- Those who cannot afford to lose power or have power outages



PV kits Include

- Solar modules
- Hybrid inverter/charger
- Custom mounting system
- Battery bank
- PV, battery bank & ground wiring harnesses
- Wire management kits





PRODUCT MODEL	SP3KW-HY	SP5KW-HY	SP10KW3-HY
PV System Size Nominal (kWp)	3.36	5.6	11.2

PV MODULE SPECIFICATIONS (*Mono)

Power (W)		280	
Vmp (V)		31.8	
Voc (V)		38.8	
Isc (A)		9.33	
Iimp (A)		8.81	
Dimensions (L x W x H) (mm)		1650*992*35	
PV Module weight (kg)		18.6	
Certifications		CE / TUV (IEC 61215 & IEC 61730) / UL (UL1703)	

*Polycrystalline PV modules also available up on request

INVERTER SPECIFICATIONS

Inverter Size (kW)	3	5	10
Max DC Power (W)	4000	6000	13000
Max DC Voltage (V)	600	600	1000
MPPT Voltage Range (V)	125 - 550	125 - 550	330 - 800
Number of MPPTS	1	1	2
Nominal AC Power (W)	3000	4999	10000
Max Output Current (A)	14.4	21.7	16
AC Nominal Voltage / Voltage Range (V)	230 / 180-270	230 / 180-270	400 / 360 - 440
AC Grid Frequency Range (Hz)		50 / 60	
Number of Phases	1	1	3
Dimensions (W x H x D) (mm)	460 x 477 x 181.5	460 x 477 x 181.5	655 x 465 x 208
Inverter Weight (kg)	26.9	26.9	40
Certifications		IEC62109-1-2 / IEC62040 / EN61000-6-1 / EN61000-6-2 / EN61000-6-3 VDE0126-1-1 A1:2012 / VDE-AR-N4105 / G83 / G59 / AS4777 / ENS0438 / CEI0-21 / VDE2510	

EPS (Off Grid Model with Battery)

Rated Power (VA)	4000	5000	10000
Max Charge / Discharge Current (A)	20	20	25
*Max Power (W) for 10 Seconds	8000	8000	16000

*Assumes PF = 1

BATTERY BANK SPECIFICATIONS

Battery Type	Li - Ion (LifePO4)		
Total Batteries	2	4	8
Battery Bank Power - Total (kWh)	4.8	9.6	19.2
Battery Voltage (V)		48	
Battery Bank Voltage (V)	96	192	384
Battery Current (Ah)		50	
Battery Bank Current (Ah)		50	
Full Cycles (At Designed 80% DoD)		4000	
Connection		Series	
Certifications		TUV / CE	
Design Life (Years) / Warranty (Years)		>10 / 5	

*Lead Acid batteries available upon request

BOS

DC / AC Disconnect	1 / 1	2 / 1	2 / 1
*PV Wire Harness - 4mm ² (m)	100	200	200
*Ground Wire - 4mm ² (m)	30	50	100
Battery Cables		Included	

*Extra wire is available up request

SYSTEM LAYOUT

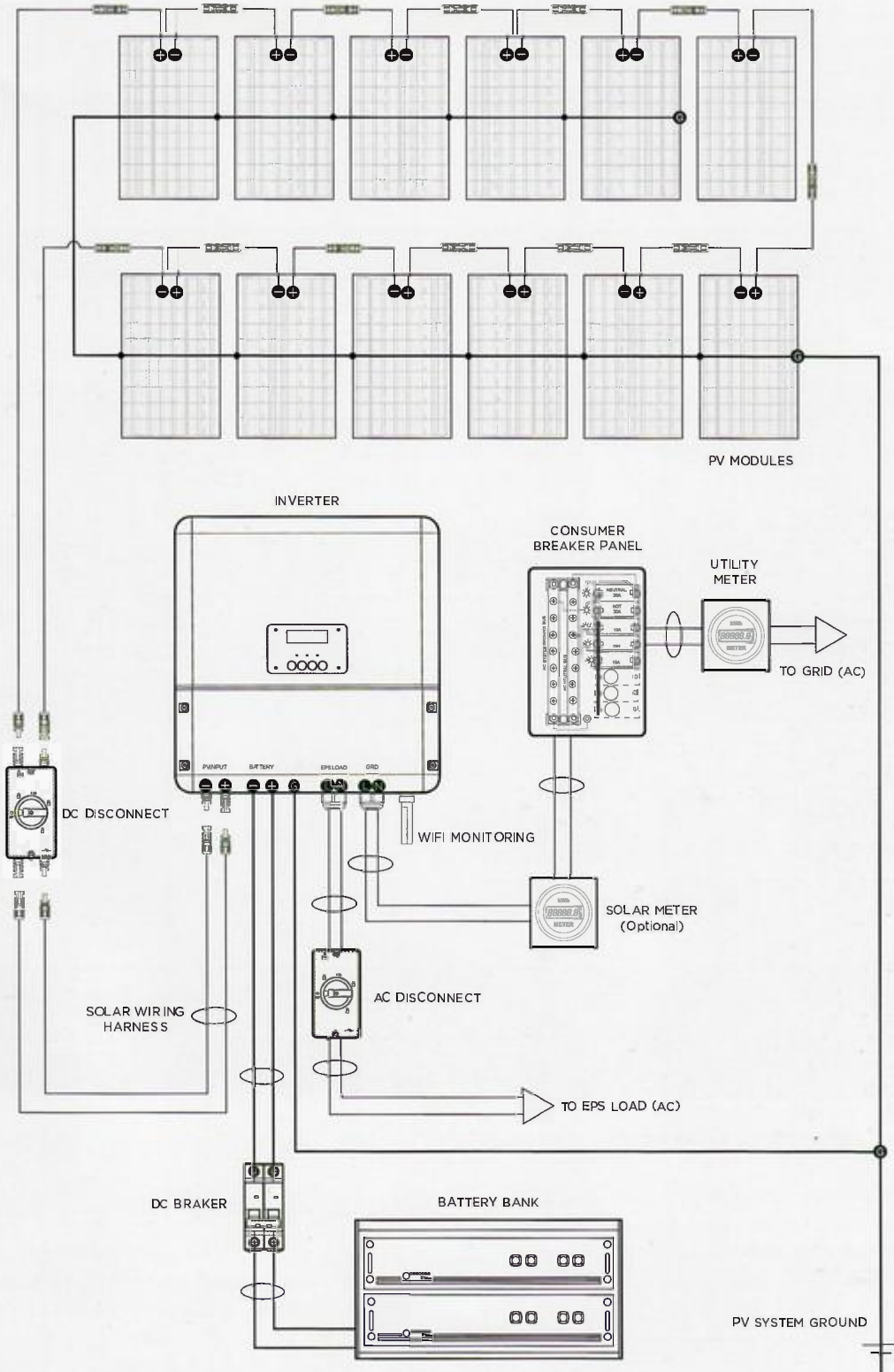
Number of Modules	12	20	40	
PV Array Surface Area (m ²)	20.4	34	68	
PV Array Weight (kg)	223.2	372	744	
PV Module	No. of PV Modules / String	12	10	20
String	Total Strings	1	2	2
Configuration	String Voc (V)	465.6	388	776
600VDC	String Vmp (V)	381.6	318	636
	String Imp (A)		8.81	

PRODUCTION ESTIMATES (kWh AC)

*Projectd Yearly Output at 4 PSH / Day	11.4	19.0	38.1
*Projectd Yearly Output at 5 PSH / Day	14.3	23.8	47.6
*Projectd Yearly Output at 6 PSH / Day	17.2	28.6	57.1

*Based on 85% system efficiency (formula = DC Power x Peak Sunshine Hours / Day x System Efficiency) (PSH = Peak Sunshine Hours)

SP3KW-HY



SYSTEM OPTIONS

Monitoring Device	Wi-Fi or GPRS		
PV Module Type	Monocrystalline(Poly also available upon request)		
Mounting System Types	Metal Roof, Asphalt Shingle, Tile Roof, Tin Roof, Flat Concrete Roof, Ground		
Inverters Stacked	Upto10		
Battery Bank	Li-Ion or Lead Acid		

SHIPPING

PV Kit Weight (kg)	431	689	1070
PV Kit Shipping Size	1.7 x 0.7 x 1/ 0.5 x 0.5 x 0.5	1.7 x 1 x 1/ 0.5 x 0.5 x 0.5	1.7 x 1 x 1/ 0.5 x 0.5 x 0.5
Total Number of Boxes	2	2	4

COMPLETE SOLAR SYSTEM

Commercial Hybrid
Photovoltaic Solar System

COMMERCIAL HYBRID

30KW-50KW-100KW
120KW-150KW

Product Description

Sunpal Power commercial hybrid solar system (also called solar storage system) is kind of micro-grid solution. Sunpal Power has carefully designed and engineered our hybrid solar power systems to be faster and easier to install. Our hybrid solar power system produce zero emissions, are noiseless, and easy for installation.

Standard Grid-tie systems will not provide electricity directly to your house during a power outage due to safety regulations(anti-islanding) even if the solar modules are producing DC current. Hybrid solar systems can be independent of the standard utility grid, and can typically deliver the equivalent expectations of the traditional grid.

Whether you will be using hybrid solar system for your remote cabin, your place of business, or your full-time residence, Sunpal Power has an hybrid solar solution that can fit almost any installation requirement.



Product Benefits

- Become completely energy independent
- Reduce the burning of fossil fuels for a healthier environment
- Eliminate the problems of grid blackouts

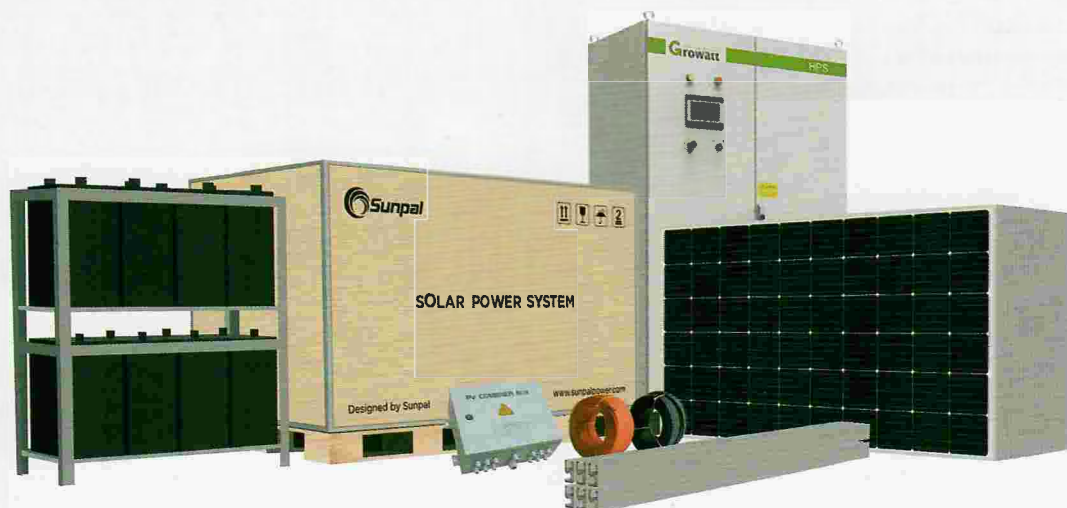
Common Application

- Installation sites where bringing in the electricity from the grid is too expensive or difficult
- Locations where liquid fuel costs are too high or difficult to maintain
- Those looking to be completely independent from the grid
- Those who cannot afford to lose power or have power outages



PV Kits Include

- Solar modules
- Hybrid solar inverter
- Battery bank
- PV combiner box
- Custom mounting system
- PV, battery bank & ground wiring harnesses
- Wire management kits





PRODUCT MODEL	SP30KW3-HY	SP50KW3-HY	SP100KW3-HY	SP120KW3-HY	SP150KW3-HY
PV System Size Nominal (Inverter Power) (kW)	30	50	100	120	150

PV MODULE SPECIFICATIONS (*Mono)

Power (W)	280				
Vmp(V)	31.8				
Voc (V)	38.8				
Isc (A)	9.33				
Iimp(A)	8.81				
Dimensions (L x W x H) (mm)	1650*992*35				
PV Module weight (kg)	18.6				
Certifications	CE / TUV (IEC 61215 & IEC 61730) / UL (UL1703)				

*Polycrystalline PV modules also available up on request

INVERTER/CHARGER SPECIFICATIONS

Rated Output Power (kW)	30	50	100	120	150
Apparent Power (kVA)	33	55	110	132	165
Transformer	Yes				
AC Voltage	3/N/PE, 360V - 440V				
AC Frequency (HZ)	50 / 60				
Battery Voltage (V)	420				
MPPT Charge Current (A)	85	142	285	340	425
PV Input Power (W)	30000	50000	100000	120000	150000
PV MPP Voltage Range (V)	480 - 800				
Protections	Input over/under voltage, output over/under voltage, overload, short circuit over temperature, reverse polarity, lightning surge protection				
Standby Consumption	< 30W				
Display	Touch screen				
Dimensions (W x H x D) (mm)	950 x 750 x 1860	950 x 750 x 1860	1200 x 800 x 1900	1200 x 800 x 1900	1400 x 800 x 1900
Inverter Weight (kg)	440	620	900	1024	1250

BATTERY BANK SPECIFICATIONS

Battery Type	Lead-acid gel				
Battery Voltage (V)	2				
Battery Bank Voltage (V)	420				
*Battery Current (Ah)	200	400	600	800	1000
*Battery Bank Current (Ah)	200	400	600	800	1000
*Battery Bank Power - Total (Wh)	84000	168000	252000	336000	420000
*Battery Bank Power - 50% DOD (Wh)	42000	84000	126000	168000	210000
Battery Dimensions (L x W x H) (mm)	172.5 x 110 x 351	211 x 176 x 353	302 x 175 x 353	409 x 175 x 353	475 x 174 x 351
Battery Weight (kg)	14	26	37	50	62
Full Cycles (50% DOD)	1800				
Total Batteries - *storage can be increased	210				
Connection	Series				
Certifications	CE / RU / ISO 14001 / OHSAS 18001				

*Battery capacity is shown for reference only, actual capacity should be designed based on the actual power usage.

BOS

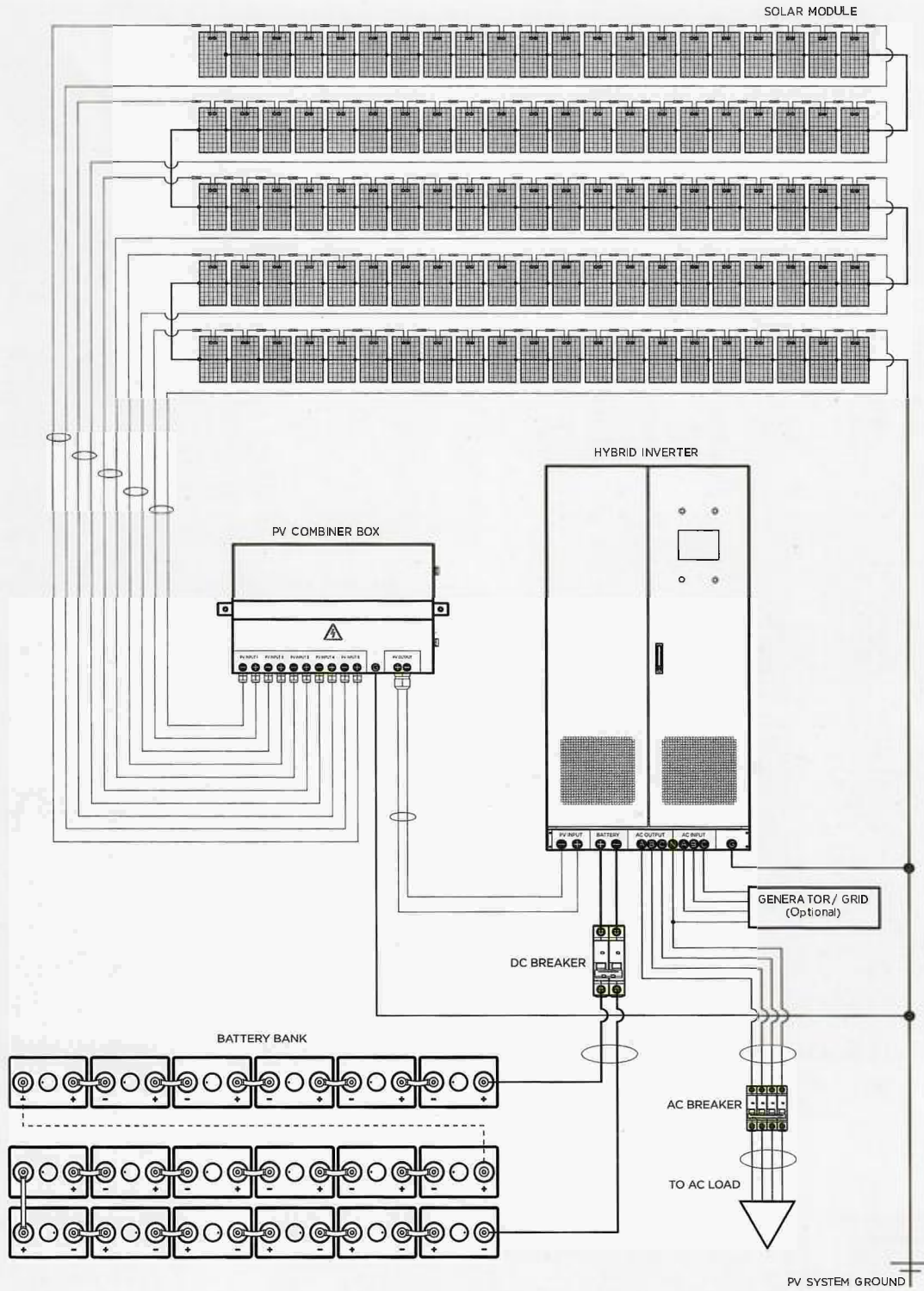
PV Combiner Box (Type / #)	5 to 1/1	8 to 1/1	16 to 1/1	10 to 1/2	12 to 1/2
*PV Wire Harness - 4mm ² (m)	500	800	1600	2000	2400
*DC Wire (Combiner Box to inverter)	16m ² /100m	25m ² /100m	35m ² /100m	25m ² /100m	25m ² /100m
*Ground Wire - 4mm ² (m)	100	200	400	500	600
PV Mounting System	Customized				
Battery Bank Rack	Customized				

*Extra wire is available up request

SYSTEM LAYOUT

Number of Modules	105	168	336	420	504
Number of Inverters	1				
PV Array Surface Area (m ²)	178.5	285.6	571.2	714	856.8
PV Array Weight (kg)	1953	3124.8	6249.6	7812	39374.4
PV Module	No. of PV Modules / String	21			
	Total Strings	5	8	16	20
String	String Voc (V)	814.8			
Configuration	String Vmp (V)	667.8			
	String Imp (A)	8.31			

SP30KW3-HY



PRODUCTION ESTIMATES (kWh AC)

*Projectd Yearly Output at 4 PSH / Day	100.0	159.9	319.9	398.4	479.8
*Projectd Yearly Output at 5 PSH / Day	125.0	199.9	399.8	499.8	599.8
*Projectd Yearly Output at 6 PSH / Day	149.4	239.9	479.8	599.8	719.7

*Based on 85% system efficiency (formula = DC Power x Peak Sunshine Hours / Day x System Efficiency) (PSH = Peak Sunshine Hours)

SYSTEM OPTIONS

Monitoring Device	R5485
PV Module Type	Monocrystalline(Poly also available upon request)
Mounting System Types	Metal Roof, Asphalt Shingel, Tile Roof, Tin Roof, Flat Concrete Roof, Ground
AC Back Up Input	Power Generator / Utility Grid
Battery	12V Gel/ 2V Gel/ Tubular Gel (OPzV)

ALL IN ONE SOLAR SYSTEM

Photovoltaic Solar
Water Pump System Kit

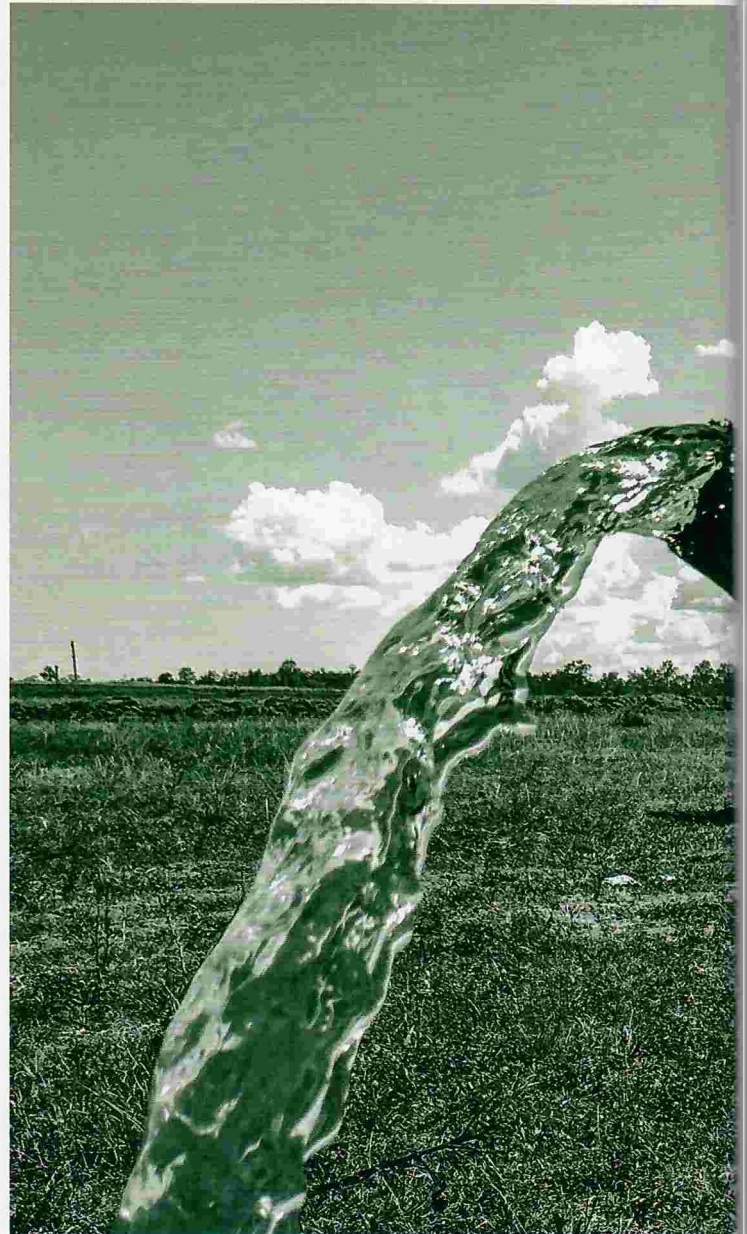
SOLAR WATER PUMP

1HP-2HP-3HP
5HP-10HP-20HP

Product Description

Solar powered water pumping is one of the most practical applications of solar energy on the market today. Solar pumping systems are reliable stand-alone PV systems that require no fuel and very little attention to operate and maintain.

From small scale agricultural projects to large scale municipality water projects, Sunpal Power offers solar water pumping systems that fit every water pumping application. Designed to be ultra-affordable and easy to install while still being engineered to be robust with low maintenance. Water pumping has never been so environmentally friendly.



Product Benefits

- Provide clean water distribution with only solar energy
- No moving parts with minimal maintenance
- Can be installed in any location including remote off grid environments

Common Application

- Livestock
- Agricultural irrigation
- Wildlife irrigation systems
- Waste water treatment
- Homes, farms, ranches, and cabins
- Villages, businesses, and communities



PV Kits Include

- Solar modules
- Water pump & Inverter
- Custom mounting system
- Float switch
- DC disconnects
- PV, water pump wiring harnesses
- Wire management kits



PRODUCT MODEL	SP1HP-DC	SP2HP-DC	SP3HP-DC	SP5HP-AC	SP10HP-AC	SP20HP-AC
PV System Size Nominal (kWp)	0.84	2.24	2.8	5.6	11.2	22.4

PV MODULE SPECIFICATIONS (*Mono)

Power(W)	280					
Vmp(V)	31.8					
Voc (V)	38.8					
Isc(A)	9.33					
Imp(A)	8.81					
Dimensions (L x W x H) (mm)	1650*992*35					
PV Module weight (kg)	18.6					
Certifications	TUV (IEC 61215 & IEC 61730) / UL (UL 1703)					

*Polycrystalline PV modules also available up on request

INVERTER SPECIFICATIONS

Inverter Type	DC			AC		
Inverter Size (kW)	0.6	1.2	1.8	5.5	7.5	15
Max DC Power (W)	1	2.4	3	8	11	22
Max DC Voltage (V)	150	200	200	850		
MPPT Voltage Range (V)	60-120	120-160	120-160	500 - 700		
Number of MPPTS	1			1		
Max Output Current (A)	13	11	16	13	18	30
AC Nominal Voltage / Voltage Range (V)	N/A ✓			380		
AC Grid Frequency Range (Hz)	N/A ✓			50		
Number of Phases	N/A ✓			3		
Dimensions (W x H x D) (mm)	202 x 244 x 146	202 x 284 x 146	202 x 284 x 146	425 x 415 x 205		
Inverter Weight (kg)	3.6	4.3	4.3	9.5	14.5	15
Certifications	EN 61000-6-3:2007 / EN 61000-6-1:2007 / IEC 61000-4-2 / IEC 61000-4-3 / EN 50178:1997					
Warranty	3					

*WATER PUMP SPECIFICATIONS

Pump Power (kW)	0.6	1.1	1.5	4	5.5	13
**Daily Water Flow (m ³)	2 - 18	18 - 33	34 - 76	40 - 70	80 - 160	700 - 1100
**Water Head Range (m)	80 - 18	43 - 22	34 - 16	119 - 79	79 - 43	22 - 18
Pump Outlet - Hose Diameter (mm)	25	40	50	50	65	150
Well Diameter (mm)	125			125	200 - 250	200 - 250
AC Input Voltage (VAC)	N/A ✓			380		
AC Frequency (Hz)	N/A ✓			50		
Dimensions (L x W) (mm)	560 x 100	830 x 100	889 x 100	1436 x 100	1652 x 133	1652 x 133
Pump Material	Screw and Body AISI 304 ✓					
Certification Standards	CE - EN 61000-6-3:2007+A1:2011 / EN 61000-6-1:2007 / EN 60335-1:2012 / EN 60335-2-41:2003 / +A1:2004+A2:2010					
Warranty (Years)	1					

*Flow based on 6kWh/m²/day **Other Pump flow and head variations available upon request

BOS

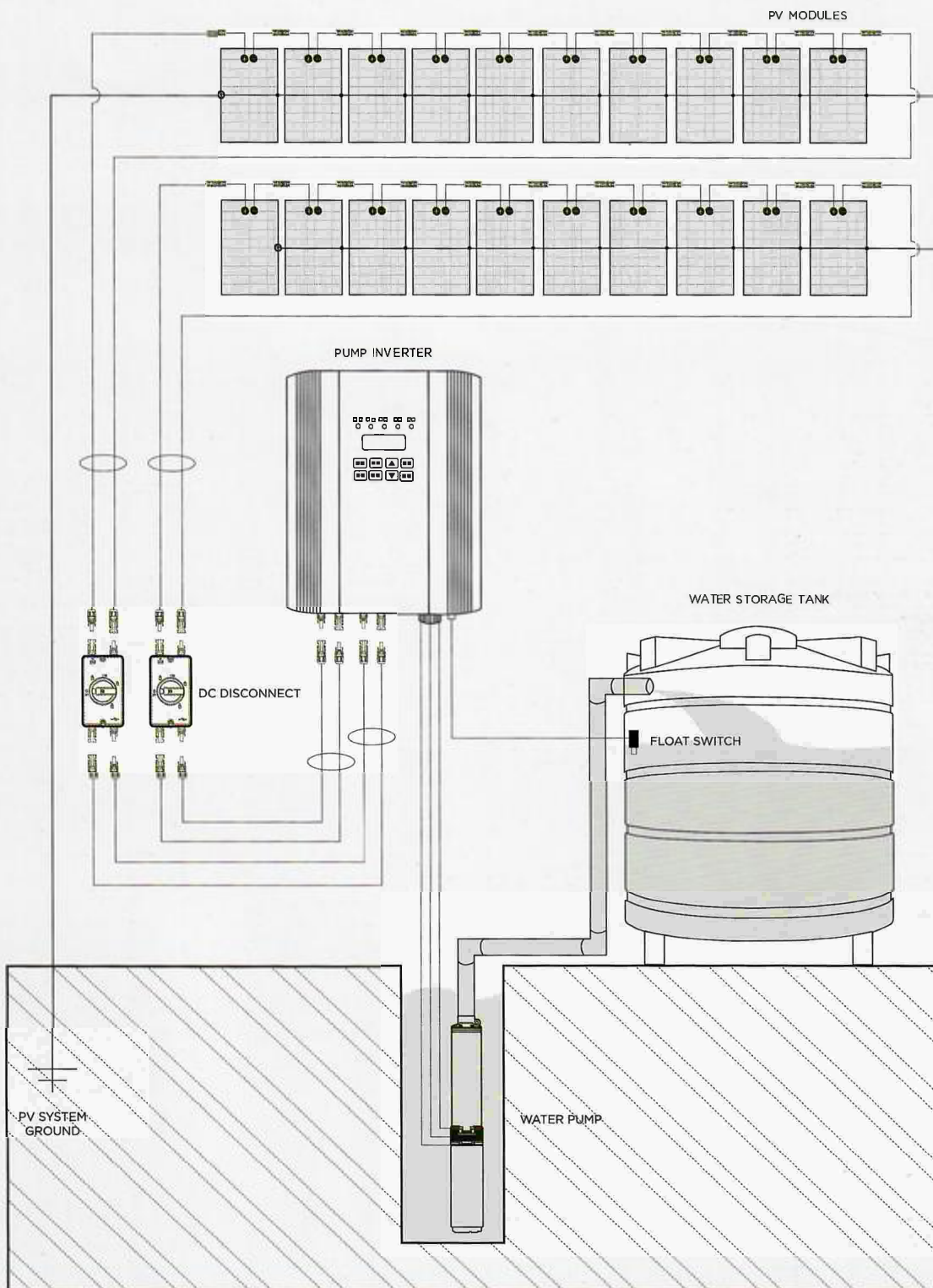
DC Disconnect	1	2	2	1	2	4
*PV Wire Harness - 4mm ² (m)	100	200	200	100	200	400
*Pump Power Cable (m)	50	75	100	100	100	150
*Ground Wire - 4mm ² (m)	50	50	50	50	100	100

*Extra wire is available up request

SYSTEM LAYOUT

Number of Modules	3	8	10	20	40	80
PV Array Surface Area (m ²)	5.1	13.6	17	34	68	136
PV Array Weight (kg)	55.8	148.8	186	372	744	1488
No. of PV Modules / String	3	4	5	20		
PV Module String Configuration	Total Strings	1		1	2	4
	String Voc (V)	116.4	155.2	194	776	
	String Vmp (V)	95.4	127.2	159	636	
	String Imp (A)	8.81		8.81		

SP5HP-AC



SYSTEM OPTIONS

Monitoring Device	Wi-Fi or GPRS					
PV Module Type	Monocrystalline(Poly also available upon request)					
Mounting System Types	Metal Roof, Tile Roof, Asphalt Shingle, Flat Concrete Roof, Ballast, Ground					
Accessories	Float Switch			Float Switch - Grid / Diesel Back-Up		

SHIPPING

PV Kit Weight (kg)	1221	220.3	255	459.5	854.5	1635
PV Kit Shipping Size	1.7 x 0.45 x 1	1.7 x 0.55 x 1	1.7 x 0.7 x 1		1.7 x 1.1 x 1	
Total Number of Boxes		1		1	2	5



ONE STOP SOLUTION

Sunpal Power help you get clean energy

Custom Solar Solutions

As a leading solar developer and engineering services firm, we are uniquely placed to help you lower your energy bills and help you make the transition to clean and sustainable solar energy with our Commercial & Residential solutions.

1

Early Research

Project location, installation area, transformer capacity, capital and rough size.

2

Project Proposals

System configuration, installation solution, budgetary estimates, financial analysis.

3

Engineering Design

Solar components selection, whole system design, monitoring and communication system design.

4

Engineering Construction

Organizing and arrangement, construction, equipment installation and commissioning.

Quality Assurance

By using our prior knowledge and experience in the PV certification industry, Sunpal Power has established a quality assurance inspection program which prevents potential manufacturing defects and guarantees that the electric codes and standards for each specific market are followed. The outcome of this program has been highly beneficial to PV system performance, channel partners and end users who all install our products.

Sunpal Power offers complete Quality Assurance on all its product lines by adding a second layer of inspection during our kit manufacturing process at our facilities. These revisions and balances secure that both our business and our products meet the standards of the industry which are the foundation of a successful project.

Our commitment to quality assurance is serious. We take the necessary steps to uphold product quality and delivery, and we are highly involved in customer service behind the brand of our products. We make sure all our manufacturing partner platforms meet current international production quality standards, certifications and safety regulations.



Shipping & Logistics

Supplying products on-time to their destination is how we guarantee customer satisfaction. Sunpal Power can provide you with a variety of shipping options worldwide. By sea or by air we support our customers from the tracking of their products to the necessary requirements for their importing process.

Our services include the following:

Container Load Consolidation

- 20', 40' and 40' High Cube (Full Container Loads)
- LCL Service (Less Container Load)
- Load inspection from origin





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