



## PV Kits

Catalogue

### HELPING YOU HARVEST CLEAN ENERGY

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## Contents

### Company Profile

Our Company	3
Certification	5
Warranty	6
Our Products	7
Symtech Solar PV Kit	9

### Product Line

Residential On-Grid	13
Commercial On-Grid	19
Hybrid	25
Off-Grid	31
Solar Water Pump	37
Carport	43
Streetlight	49
Battery Bank	55

### Services

Custom Solar & Engineering Solutions	61
Sympack Technology	63
Shipping & Logistics	64
Quality Assurance	65

### Glossary

66



## Company Profile

### Our Company

Symtech Solar is an American renewable energy company that develops, produces, and delivers the world's most complete and cost-effective photovoltaic solar energy solutions. With an established and proven track-record and with a highly experienced management team, Symtech Solar has created multiple product lines designed for specific solar energy installations and applications, including industry leading PV kits.



The use of PV Kits designed by Symtech Solar yields cost and time savings by offering users an all-in-one packaged product, thus eliminating the need for the customer to deal with multiple manufacturers and suppliers. Our innovative packaging solution offers our clients an easier and faster way to carry out their solar businesses.

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

Symtech Solar strive to provide leading solar energy solutions by offering install-ready PV System packages that can be drop shipped throughout the world.

### 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.



## Certifications

Our PV Solutions and complete range of products, On-grid, Off-grid, Hybrid, and Water Pump 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.



## TÜV SÜD Certification

TÜV SÜD's experts have developed a new comprehensive test and certification program to certify solar kits and PV power generating units. This new scheme will allow solar kit manufacturers to verify their products, and comply with international standards.

The TÜV SÜD certification scheme represents a milestone in the solar industry, since it is specifically designed and aimed to address a variety of quality as well as safety related issues associated to PV sub-assemblies. This will signify enhanced safety and reliability of solar kits and PV power generating units in their actual application.



## Warranty

Symtech Solar 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.

<b>1 Year</b>	<b>2 Years</b>	<b>3 Years</b>	<b>5 Years</b>
Off-Grid Inverter / Charger Lead Acid Battery Water Pump	Off-Grid Inverter / Charger (Optional) Water Pump Inverter	Solar Street Light	Grid Inverter Li-Ion Battery Hybrid Inverter
<b>10 Years</b>	<b>12 Years</b>	<b>15 Years</b>	<b>25 Years</b>
PV Module (Craftsmanship) Grid Inverter (Optional) Mounting System	PV Module (Optional)	Grid Inverter (Optional)	PV Module (Power)





## Our Products

### Our Company

Symtech Solar offers more than 5 different PV Kit product lines with multiple design configurations and a variety of component characteristics. Symtech Solar'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 a box" configuration.

Every Symtech Solar 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
-  EPCs
-  Solar Roofing & HVAC Installation Companies
-  Distributors, Wholesalers and Retailers
-  Business Owners
-  NGOs and Government Agencies



### Our All In A 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.





# The Symtech Solar PV Kit

## PV Modules

We at Symtech Solar 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. Our experienced team is adamant about manufacturing consistency and module durability and offer all our partners comprehensive flash test data of all the modules we ship.

## Inverters

Packed full of innovative technology, Symtech Solar offers a range of variable power inverters in both single and three phase AC. Code compliant to every market we offer inverters with transformerless design which means both reduced weight and lighter efficiency. Maximum power production is achieved by offering wider input voltages and operating temperature ranges. Simplified and robust, we offer the best performance to price ratio in the PV industry.

## Batteries

The future for energy storage is here. Offering a variety of high efficiency, cost competitive battery technologies including Lead Acid Carbon Gel and Li-Ion (LiFePO4). Our BOS Technologies provide the innovative solutions you are looking for, enabling your project run smoother, faster and more profitable than ever before. We offer our battery systems preconfigured in both Li-Ion and Lead Acid mounted using either rack or cabinet storage configurations.

## Mounting System

Symtech Solar's mounting systems act as the backbone of our PV Kits and Custom Solar Energy Solutions. Engineered for durability and designed for simplicity, Symtech Solar uses only the highest quality materials (AL 6063-T5 & Stainless Steel) 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.

## BOS Components

Symtech Solar'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 Symtech Solar.

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:

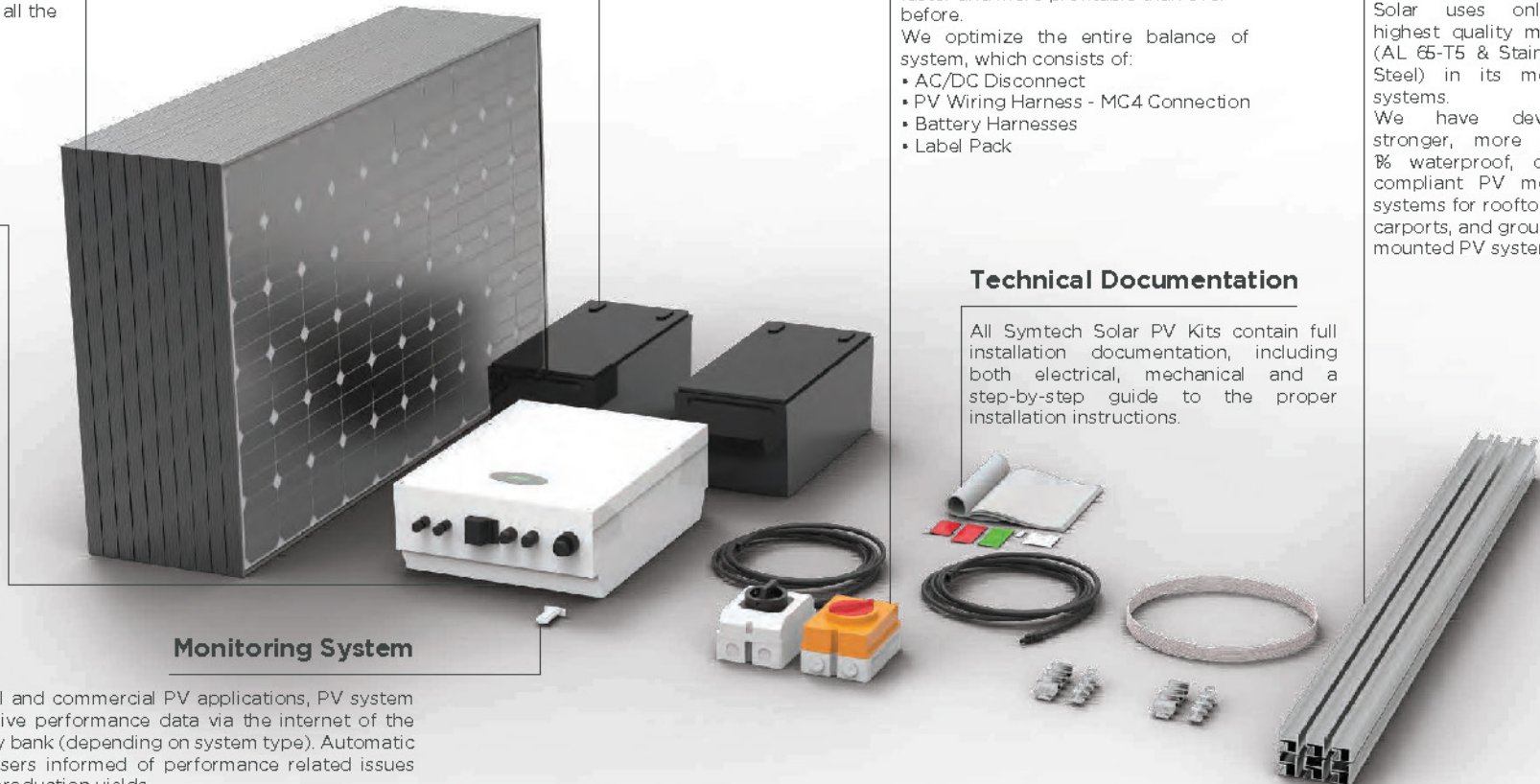
- AC/DC Disconnect
- PV Wiring Harness - MC4 Connection
- Battery Harnesses
- Label Pack

## Technical Documentation

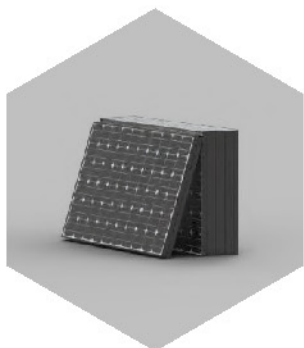
All Symtech Solar PV Kits contain full installation documentation, including both electrical, mechanical and a step-by-step guide to the proper installation instructions.

## 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.







## PV Modules

### Features

- Only plus power tolerance modules ensure that all our projects perform as designed.
- High power output and conversion efficiency.
- Excellent mechanical load resistance for high wind and snow.

### Options

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



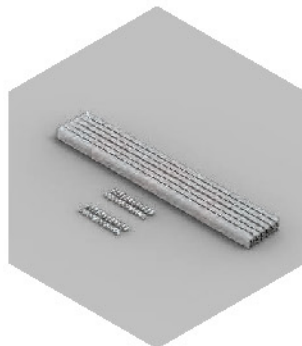
## Mounting System

### Features

- Wide application flexibility - mounts for all roof types.
- Extensive pre-design for fast assembly and installation.
- Superior durability and longevity.
- Cost savings with integrated grounding, requiring less copper and grounding hardware.

### Options

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



## Batteries

### Features

- Gel Lead Acid or Li-Ion technology.
- Large DoD allowing larger energy storage and usage.
- Better temperature sensitivity increases cycle usage.
- Multiple layer protection method can easily monitor current, voltage, and temperature (Li-Ion).
- Excellent deep discharge recovery with fast recharge performance.
- Immobilized GEL & Tubular Plate Technology offers higher reliability and performance.

### Options

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



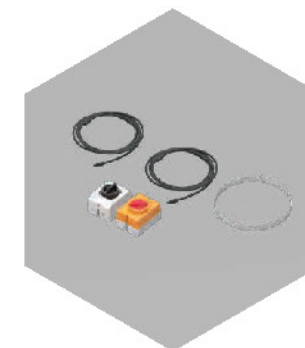
## BOS Components

### Features

- AC/DC disconnects, wiring harnesses, MC4 connectors, tools, wire, safety label packs.
- Wide application flexibility.
- Superior durability and longevity.
- Cost savings with integrated grounding, requiring less copper and grounding hardware.

### Options

- AC/DC disconnects, wiring harnesses.
- Wide application flexibility.
- Safety.



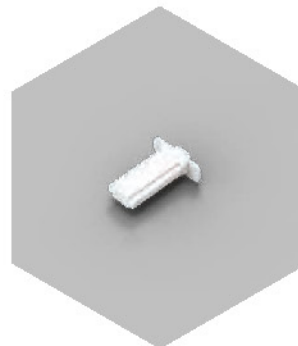
## Monitoring System

### Features

- Quick installation and easy operation.
- 100 meter wireless connection with inverter.
- 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.
- NEMA 4/4X for safer indoor or outdoor installation.
- On-Grid, Off-Grid, Hybrid, and Water Pumping.

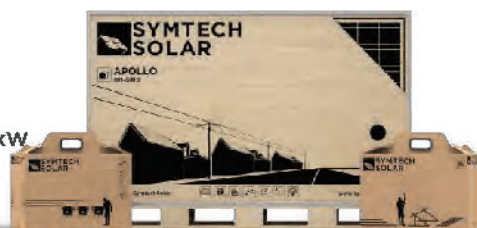
### Options

- Monitoring options allow for better performance collection and project oversight.
- Dual MPPT technology provides numerous layout and design options.
- Integrated DC disconnect and utility grade meters.
- CE, IEC, TUV, UL, ISO, CEC, and more.



# APOLLO ON-GRID RESIDENTIAL

0.5kW / 1.5kW / 2kW / 3kW / 4kW / 5kW / 10kW



## Product Description

Symtech Solar's Residential Solar PV Kits are the most cost effective and easy PV solution 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.



### Switch on and off

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.



### Sell back your power

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.



### Use the grid at night

When your system is not producing sufficient power or during non-daylight hours your home can draw power from the utility grid.



## What's in the Box

- Solar modules
- Solar on-grid inverter
- Custom roof mounting system
- PV wiring harnesses
- DC and AC disconnects
- Wire management kit
- Safety label kit
- Single and three-line electrical and mechanical schematics
- Microinverter (available for Apollo Mini 500W)



## Residential PV Systems Ready to Install

Configured in a 'plug n play' solution, our Apollo residential PV systems allow installers to safely connect them to the AC main service panel of any household anywhere in the world. Owners are given the option to either auto consume the power generated from their PV system or sell excess energy back to their local utility provider. These systems are offered with mounting systems for multiple roof types and configurations which offers stability and aesthetics to any rooftop.



## 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 Applications

- Homes
- Villas
- Out buildings
- Garages
- Apartments

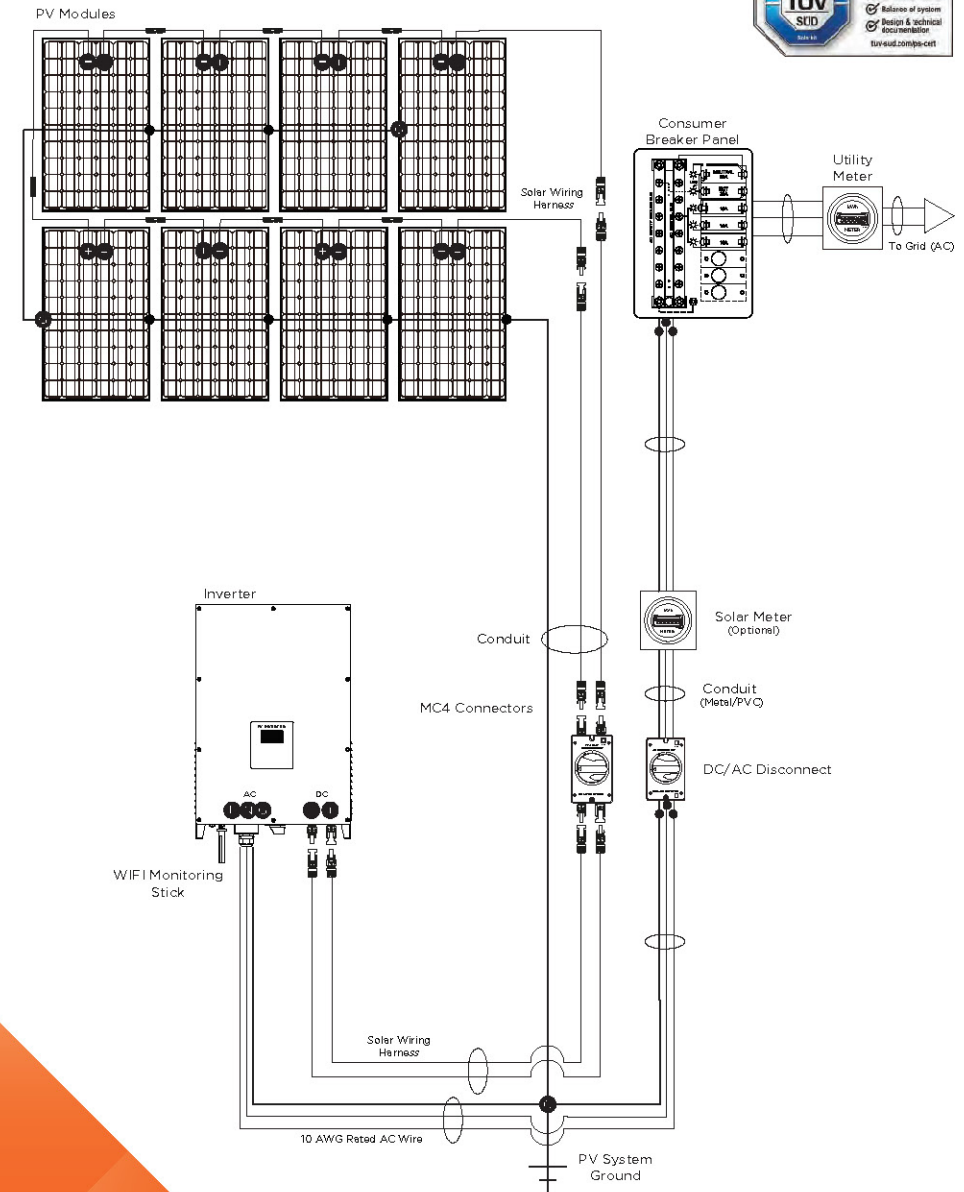




## APOLLO Residential On-Grid PV Kits

PRODUCT NAME	Apollo - 0.5kW		Apollo - 1.5kW		Apollo - 2kW		Apollo - 3kW		Apollo - 4kW		Apollo - 5kW		Apollo - 10kW		
Product Series	Apollo														
PV System Size Nominal (kWp)	530		1590		2120		3180		4240		5300		10600		
Part #	APO-0.5		APO-1.5		APO-2		APO-3		APO-4		APO-5		APO-10		
PV MODULE SPECIFICATIONS (PoH)															
Power (W)	265														
Vmp (V)	31.1														
Voc (V)	38.2														
Isc (A)	9.1														
Imp (A)	8.55														
Dimensions (L x W x H) (mm)	1638 x 982 x 35														
PV module weight (kg)	19.5														
Certifications	TUV (IE61215 & IEC61730) / VDE (IEC61215 & IEC61730) / UL / CE – TUV (IEC61215 & IEC61730) / CE														
*Monocrystalline PV modules also available upon request															
INVERTER SPECIFICATIONS (600VDC)															
Inverter Size (kW)	0.5		1.5		2		3		4		5		10		
Max DC Power (W)	700		1800		2400		3500		4600		5800		11500		
Max DC Voltage (V)	60		550						600						
MPPT Voltage range (V)	64 to 96		50 to 450						100 to 500						
No. of MPPT'S	2		1						2				3		
Max AC Power (W)	500		1700		2200		3300		4400		5500		10000		
Max Output Current (A)	2.17		8.1		10.5		15.7		21		25		45.9		
AC Nom. Voltage/Voltage Range (V)	208 / 230 / 240						230V / 160 to 285								
AC Grid Frequency range (Hz)	50-60														
Number of Phases	1														
Dimensions (W x H x D) (mm)	250 x 180 x 28				310 x 543 x 160								333 x 573 x 249		
Inverter Weight (kg)	3.08				11				11.5				18		
Certifications	CAN / CSAC22.2 N107.1, UL 1741, UL 1998, UL 1699B, FCC part 15, Class B – AS4777, AS / NZS 3100, CE, VDE 0126-1-1, DK5940, G83 / 1-1, G59 / 2, RD 1663, EN50438, VDE-AR-N4105, CEI-021, IEC-62109, ENEL-Guide														
*120/240V UL inverters also available upon request															
ROS															
AC/DC Disconnect	0				1 / 1				1 / 2				1 / 4		
*PV Wire Harness - 4mm (meters)	0				1				2				4		
*Ground Wire - 4mm (meters)	10		20		20		30		40		50		100		
*Extra wire is available upon request															
SYSTEM LAYOUT															
# of Modules	2		6		8		12		16		20		40		
# of Inverters	1						1								
PV Layout options	Portrait						Landscape or Portrait								
PV Array Surface Area (m2)	3.3		10.2		13.6		20.4		27.2		34		68		
PV Array Weight (kg)	39		117		156		234		312		390		780		
PV Module Configuration 600VDC	No. of PV Modules / String		1		6		8		12		8		10		
	Total Strings		2		1						2		4		
	String Voc		38.2		229.2		305.6		458.4		305.6		382		
	String Vmp		31.1		186.6		248.8		373.2		248.8		311		
	String Imp						8.55								
PRODUCTION ESTIMATES (kWh AC)															
*Projected yearly output at 1100 GHI/year	496		1487		1982		2973		3964		4956		9911		
*Projected yearly output at 1460 GHI/year	658		1973		2631		3946		5262		6577		13155		
*Projected yearly output at 1825 GHI/year	822		2466		3289		4933		6577		8222		16443		
*Based on 0.85% system derating (formula = DC Power x peak sunshine hours/year x derate factor) (GHI - Global Horizontal Irradiance)															
SYSTEM OPTIONS															
Wifi Monitor	Wifi						Wi-Fi or GPRS								
PV Module Type	Polycrystalline (Mono also available upon request)														
PV System Color	based														
Mounting System Types	Metal Roof, Asphalt Shingle, Tile roof, Tin Roof, Flat Concrete														
SHIPPING															
PV Kit Weight (kg)	50		250		275		375		475		585		1160		
PV Kit Shipping Size (L x W x H) (meters)	1.7 x 0.12 x 1		1.7 x 0.45 x 1		1.7 x 0.55 x 1		1.7 x 0.7 x 1		1.7 x 0.95 x 1				1.7 x 1.1 x 1		
Total number of Boxes	1														
Packing Material	Sympack Cardboard						Symtech Sympack Wood Crates						2		

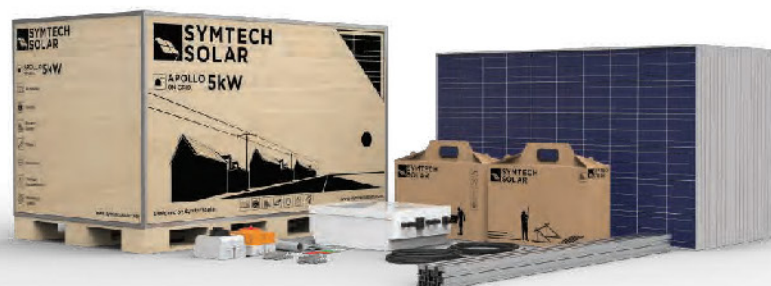
## APOLLO Residential On-Grid Example Layout (2kW)





### The all-in-one Box Solution

The difference is clear, get better results with our all in a box packaging solutions. Symtech Solar's heavy duty ISPM15 compliant care design not only protects the contents during international shipping but also ensures that the solar kits arrive to their destination site undamaged and ready for installation. Symtech Solar's BOS toolboxes are included in all our solar kits and designed with the installer in mind. With years of installation experience, we understand the benefits of having a safe and well organized jobsite.



### Packaging Specs

Designed to be warehouse friendly for distribution centers and local logistics companies, our kits are easily stacked, inventoried, and consolidated.

#### Apollo 500W

1.7 x 0.12 x 1  
7 kits per pallet

#### #APO-0.5

84 kits per 20'  
182 kits per 40'



#### Apollo 1.5kW

1.7 x 0.45 x 1  
1 kit per pallet

#### #APO-1.5

38 kits per 20'  
76 kits per 40'



#### Apollo 2kW

1.7 x 0.55 x 1  
1 kit per pallet

#### #APO-2

26 kits per 20'  
52 kits per 40'



#### Apollo 3kW

1.7 x 0.70 x 1  
1 kit per pallet

#### #APO-3

22 kits per 20'  
44 kits per 40'



#### Apollo 4kW

1.7 x 0.95 x 1  
1 kit per pallet

#### #APO-4

12 kits per 20'  
24 kits per 40'



#### Apollo 5kW

1.7 x 1.1 x 1  
1 kit per pallet

#### #APO-5

12 kits per 20'  
24 kits per 40'



#### Apollo 10kW

1.7 x 1.1 x 1  
2 pallets per kit

#### #APO-10

6 kits per 20'  
12 kits per 40'





# ATLAS ON-GRID COMMERCIAL

10kW / 20kW / 40kW / 60kW / 100kW / 500kW



## Product Description

Symtech Solar's Commercial Solar PV Kits 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.



### Help the environment

Business owners reduce electricity costs whilst simultaneously promote their brand commitment to the environment and enhance their social corporate responsibility.



### Increase your value

Depreciate financial contributions and sell any excess electricity generated by the system back to the grid. Increase the ROI and enjoy added marketing benefits from a highly visible landmark.

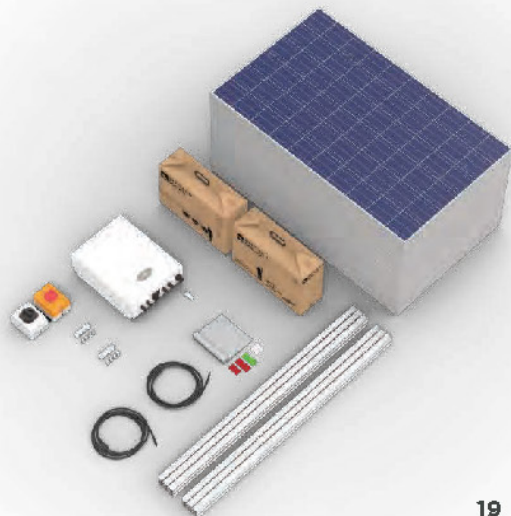


### Great adaptability

Let our systems fit in your needs. We offer flexible design to serve space restricted areas. They come in a variety of inverter voltage ranges which can be adapted to site-specific electrical requirements.

## What's in the Box

- Solar modules
- Solar on-grid inverter (3 phase)
- Custom roof mounting system
- PV wiring harnesses
- DC and AC disconnects
- Wire management kit
- Safety label kit
- Single and three-line electrical and mechanical schematics



## Solar Power for your Business

Offered in both pre-configured and site specific designs, Atlas PV systems save time and money when planning and adopting solar into commercial settings. Designed to match your business's requirements, Atlas commercial PV systems are delivered install ready and hold internationally compliant certifications. Directly shipped from our facilities in Shanghai, China, our Atlas Commercial line is ideally suited for business applications.

## Product Benefits

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

## Common Applications

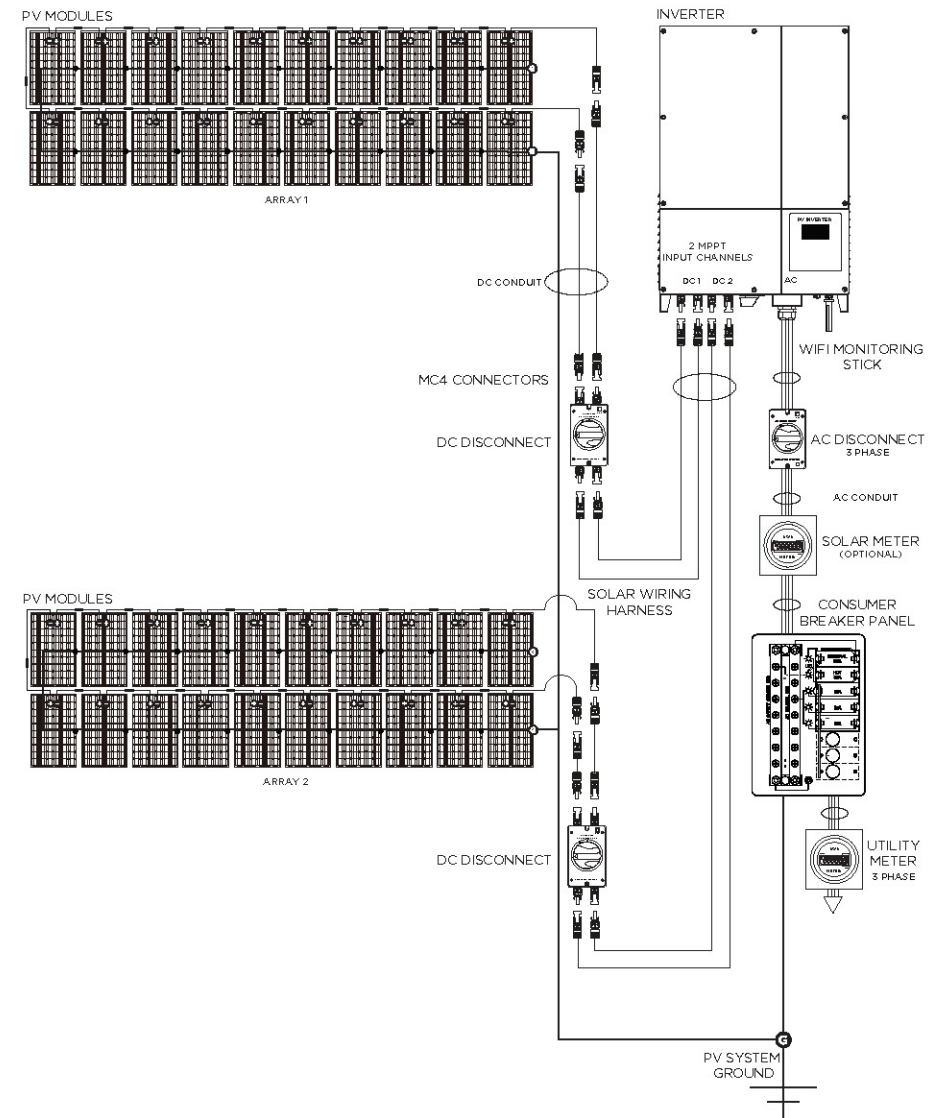
- Factories
- Distribution centers
- Shopping centers
- Office buildings
- Libraries
- Churches
- Schools



## ATLAS Commercial On-Grid PV Kits

PRODUCT NAME	Atlas - 10kW	Atlas - 20kW	Atlas - 40kW	Atlas - 60kW	Atlas - 100kW	Atlas - 500kW
Product Series	Atlas					
PV System Size Nominal (kWp)	10.6	21.2	42.4	63.6	106	106
Part #	ATL-10	ATL-20	ATL-40	ATL-60	ATL-100	ATL-500
PV MODULE SPECIFICATIONS (*Poly)						
Power (W)	265					
Vmp (V)	311					
Voc (V)	38.2					
Isc (A)	9.1					
Iimp (A)	8.55					
Dimensions (L x W x H) (mm)	1638 x 982 x 35					
PV module weight (kg)	19.5					
Certifications	TUV (IE61215 & IEC61730) / VDE (IEC61215 & IEC61730) / UL / CE – TUV (IEC61215 & IEC61730) / CE					
*Monocrystalline PV modules also available upon request - 72 Cell modules also available upon request						
INVERTER SPECIFICATIONS (*400VAC Nominal)						
Inverter Size (kW)	10	20	40	30	50	50
Total # of Inverters	1	1	1	2	1	10
Max DC Power (kW)	11.5	23	48	34	55	
Max DC Voltage (V)	1000		1100	1000	1100	
MPPT Voltage range (V)	200 to 800		200 to 1000		200 to 1000	
No. of MPPT's/Max Strings	2 / 4		4 / 8		4 / 12	
Max AC Power (kW)	11		44		50	
Max Output Current (A)	16.7		66.9		80	
AC Nom. Voltage/Voltage Range (V)	400 / 313-470		400 / 304-460			
AC Grid Frequency range (Hz)	50-60					
Number of Phases	3					
Dimensions (W x H x D) (mm)	430 x 613 x 269	530 x 700 x 357	630 x 700 x 357	530 x 700 x 357	630 x 700 x 357	
Inverter Weight (kg)	29	57.2	63	58.2	53	
Certifications	CAN / CSA C22.2 N1071, UL 1741, UL 1998, UL 1699B, FCC part 15, Class B – AS4777, AS / NZS 3100, CE, VDE 0126-1-1, DK5940, G83 / 1-1, G59 / 2, RD 1663, EN50438, VDE-AR-N4105, CEI-021, IEC-62109, ENEL-Guide					
*240/480V UL inverters also available upon request						
BOS CONFIGURATION (1000VDC)						
AC / DC Disconnect	1 / 2	1 / 4	1 / 8	2 / 12	2 / 20	10 / 100
*PV Wire - 4mm 1000V (meters)	200	350	500	750	1000	5000
*Ground Wire - 4mm (meters)	100	100	200	300	400	1000
*Extra wire is available upon request						
SYSTEM LAYOUT						
# of Modules	40	80	160	240	400	2000
# of Inverters	1		2		10	
Layout options	Landscape or Portrait					
PV Array Surface Area (m2)	68	136	272	408	680	3400
PV Array Weight (kg)	780	1560	3120	4680	7800	39000
No. of PV Modules/String	20					
PV Module String	2					
Configuration	String Voc - Poly					
1000VDC	String Vmp - Poly					
	String Imp					
PRODUCTION ESTIMATES (kWh AC)						
*Projected yearly output at 1100 GHI/year	9911	19822	39644	59466	99110	495550
*Projected yearly output at 1460 GHI/year	13155	26309	52618	78928	131546	657730
*Projected yearly output at 1825 GHI/year	16443	32887	65773	98660	164433	822163
*Based on 0.85% system derating (formula = DC Power x peak sunshine hours/year x derate factor) (GHI = Global Horizontal Irradiance)						
SYSTEM OPTIONS						
Wifi Monitor	Wifi or GPRS					
PV Module Type	Monocrystalline or Polycrystalline - 60 or 72 Cell					
PV System Color	Silver or Black					
Mounting System Variations	Metal Roof, Tile roof, Asphalt Shingle, Flat Concrete, Ballast, Ground					
SHIPPING						
PV Kit Weight (kg)	1200	2400	4800	7200	12000	55000
PV Kit Shipping Size (L x W x H) (meters)	1.7 x 1 x 1			40' container		
Total number of Boxes	2	4	8	12	20	3
Packing Material	Symtech SymPack Wood Crates					Cardboard/Pallet

## ATLAS Commercial On-Grid Example Layout (10kW)







### The all-in-one Box Solution

The difference is clear, get better results with our all in a box packaging solutions. Symtech Solar's heavy duty ISPM15 compliant care design not only protects the contents during international shipping but also ensures that the solar kits arrive to their destination site undamaged and ready for installation. Symtech Solar's BOS toolboxes are included in all our solar kits and designed with the installer in mind. With years of installation experience, we understand the benefits of having a safe and well organized jobsite.



### Packaging Specs

Designed to be warehouse friendly for distribution centers and local logistics companies, our kits are easily stacked, inventoried, and consolidated.

**Atlas 10kW**  
1.7 x 1 x 1  
2 pallets per kit

**#ATL-10**  
6 kits per 20'  
12 kits per 40'



**Atlas 20kW**  
1.7 x 1 x 1  
4 pallets per kit

**#ATL-20**  
3 kits per 20'  
6 kits per 40'



**Atlas 40kW**  
1.7 x 1 x 1  
8 pallets per kit

**#ATL-40**  
1 kit per 20'  
3 kits per 40'



**Atlas 60kW**  
1.7 x 1 x 1  
12 pallets per kit

**#ATL-60**  
1 kit per 20'  
2 kits per 40'



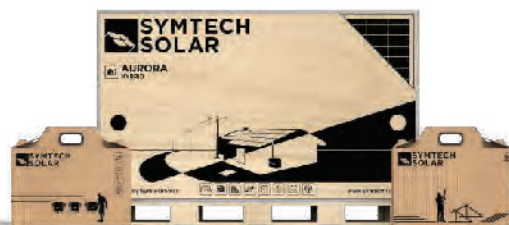
**Atlas 100kW**  
1.7 x 1 x 1  
20 pallets per kit

**#ATL-100**  
1 kit per 40'



# AURORA HYBRID

3kW / 4kW / 5kW / 8kW / 10kW



## Product Description

Aurora hybrid solar kits are unique in their ability to operate in either on-grid or off-grid conditions. These systems include advanced BMS technology that enables users to modify the charge/discharge rate & schedules of the battery storage unit as well as to manage power consumption and PV generation usage.



### Adaptable and friendly

Operational in both on-grid and off-grid mode, Aurora kits are a valuable investment for those seeking an adaptable and user-friendly combination for solar and storage resources.



### The best investment

With the decreasing cost of solar PV and Li-Ion batteries, and the increasing local incentives, solar hybrid systems have become an attractive investment opportunity for home and business owners.



### Schedule your system

These systems have the ability to generate and store power at periods when electricity prices are at their highest and deliver it to the load on a scheduled time frame.

## What's in the Box

- Solar modules
- Hybrid inverter/charger
- Custom roof mounting system
- Battery bank
- Battery storage unit
- PV, battery bank, & grounding wiring harnesses
- DC and AC disconnects
- Wire management kit
- Grounding hardware
- Safety label kit



## Stackable and Scalable

Our hybrid solar storage systems include Lithium Iron Phosphate (LiFePO<sub>4</sub>) battery packs (48V) connected in high voltage DC configurations. The batteries offer 4000 cycles and up to 80% DOD (Depth of Discharge). Each battery is offered in a 2.4kWh block and can be stacked in different storage options.

Each system can be paralleled with one another up to 1 times to achieve up to 1kW's of PV power and almost unlimited battery backup power. Offered in both single and three phase configurations.

## Common Applications

- 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

## 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

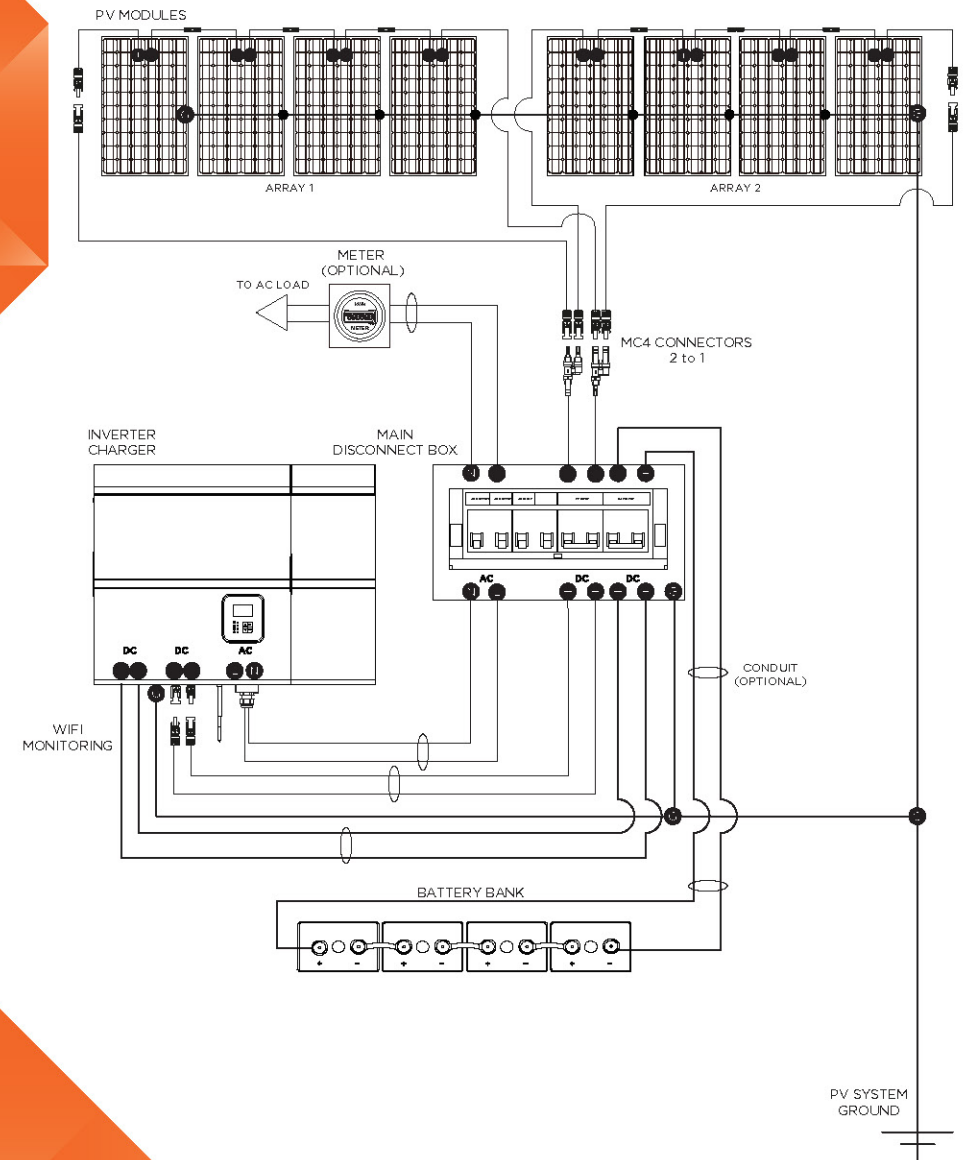




## AURORA Hybrid On-Grid/Off-Grid Battery PV Kits

PRODUCT NAME	Aurora - 3kW	Aurora - 4kW	Aurora - 5kW	Aurora 3 - 5kW	Aurora 3 - 8kW	Aurora 3 - 10kW
Product Series	Aurora (single phase)					Aurora 3 (3 phase)
PV System Size Nominal (kWp)	3180	4240	5300	5300	7950	10600
Part #	AUR-3	AUR-4	AUR-5	AUR-3-5	AUR-3-8	AUR-3-10
PV MODULE SPECIFICATIONS (Polo)						
Power (W)	265					
Vmp (V)	31.1					
Voc (V)	38.2					
Isc (A)	9.1					
Imp (A)	8.55					
Dimensions (L / W / H) (mm)	1638 x 982 x 35					
PV module weight (kg)	19.5					
Certifications	TUV (IE61215 & IEC61730) / VDE (IEC61215 & IEC61730) / UL / CE – TUV (IEC61215 & IEC61730) / CE					
*Monocrystalline PV modules also available upon request						
INVERTER SPECIFICATIONS						
Inverter Size (kW)	3	4	5	5	8	10
Max DC Power (W)	4000	5000	6000	6000	10000	13000
Max DC Voltage (V)	600					1000
MPPT Voltage range (V)	125-550					330-800
No. of MPPT'S	1					2
Nominal AC Power (W)	3000	3680	4999	5000	8000	10000
Max Output Current (A)	14.4	16	21.7	8.5	13.5	16
AC Nom. Voltage/Voltage Range (V)	230 / 180-270					400 / 360-440
AC Grid Frequency range (Hz)	50/60					50/60
Number of Phases	1					3
Dimensions (W / H / D) (mm)	460*477*181.5					655*456*208
Inverter Weight (kg)	26.9					40
Certifications	VDE0126-1-1 A1:2012/VDE-AR-N4105/G83/G59/AS4777/EN50438/CEI-0-21/VDE2510					VD E0126-1-1 A1:2012/VDE-AR-N4105/G59-3/AS4777/EN50438/CEI 0-21/IEC62619/ISO13849-2/SN29500/IEC615086
EPS (off-grid mode with battery)						
Rated Power (VA)	4000					10000
Max Charge/Discharge Current (A)	20					25
*Max Power (Watts) for 10 seconds	8000					16000
*Assumes 48V						
BATTERY BANK SPECIFICATIONS						
*Battery Type	Li-Ion (LiFePO4)					
Total Batteries	2	3	4	4	6	8
Battery Bank Power - Total (kWh)	4.8	7.2	9.6	9.6	14.4	19.2
Battery Voltage (V)	48					48
Bank Voltage (V)	96	144	192	192	288	384
Battery Current (Ah)	50					50
Bank Current (Ah)	50					50
Full Cycles (80% DoD)	4000					
Designed Depth of Discharge (DoD)	80%					
Connection	Series					
Certifications	TUV / CE					
Design Life (years)	10+					
Warranty (years)	5					
*Lead Acid batteries available upon request						
BOS CONFIGURATION						
AC / DC Disconnect	1 / 1	1 / 2		1 / 1	1 / 2	
*PV Wire Harness - 4mm 1000V	1	2	2	1	2	2
*Ground Wire - 4mm (meters)	30	40	50	50	100	100
Battery Cables	Included					
*Extra wire is available upon request						
SYSTEM LAYOUT						
# of Modules	12	16	20	20	30	40
# of Inverters	1					
PV Layout options	Landscape or Portrait					
PV Array Surface Area (m2)	20.4	27.2	34	34	51	68
PV Array Weight (kg)	234	312	390	390	570	764
No. of Modules/Strings						
PV Module	1	2	10	20	15	20
String	1					2
PV Module String	458.4	305.6	362	764	573	764
Configuration String Vmp	373.2	248.8	311	622	466.5	622
String Imp	8.55					
PRODUCTION ESTIMATES (kWh AC)						
*Projected yearly output at 1100 GH/year	2973	3964	4956	4956	7929	9911
*Projected yearly output at 1460 GH/year	3946	5262	6577	6577	10524	13155
*Projected yearly output at 1825 GH/year	4933	6577	8222	8222	13155	16443
SYSTEM OPTIONS						
Wi-Fi Monitor	Wi-Fi or GPRS					
PV Module Type	Polycrystalline (Mono also available upon request)					
PV System Color	Silver or Black					
Mounting System Types	Metal Roof, Asphalt Shingle, Tile roof, Tin Roof, Flat Concrete					
Battery Bank	Lead Acid or Li-Ion					
Inverters stacked	Up to 10					
SHIPPING						
PV Kit Weight (kg)	431	555	689	705	1070	1370
PV Kit Shipping Size (W / L / H) (m)	1.7 x 0.7 x 1 0.5 x 0.5 x 0.5	1.7 x 0.9 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	1.7 x 0.9 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					4
Packing Material	Symtech SymPack Wood Crates					

## AURORA Hybrid Example Layout (2kW)





## Packaging Specs

Designed to be warehouse friendly for distribution centers and local logistics companies, our kits are easily stacked, inventoried, and consolidated.

## The all-in-one Box Solution

The difference is clear, get better results with our all in a box packaging solutions. Symtech Solar's heavy duty ISPM15 compliant care design not only protects the contents during international shipping but also ensures that the solar kits arrive to their destination site undamaged and ready for installation. Symtech Solar's BOS toolboxes are included in all our solar kits and designed with the installer in mind. With years of installation experience, we understand the benefits of having a safe and well organized jobsite.



### Aurora 3kW

1.7 x 0.7 x 1  
1 kit per pallet



### #AUR-3

20 kits per 20'  
40 kits per 40'

### Aurora 4kW

1.7 x 0.9 x 1  
1 kit per pallet



### #AUR-4

12 kits per 20'  
24 kits per 40'

### Aurora 5kW

1.7 x 1 x 1  
1 kit per pallet



### #AUR-5

12 kits per 20'  
24 kits per 40'

### Aurora 3 5kW

1.7 x 1 x 1  
1 kit per pallet



### #AUR-3-5

12 kits per 20'  
24 kits per 40'

### Aurora 3 8kW

1.7 x 0.9 x 1  
2 pallets per kit



### #AUR-3-8

6 kits per 20'  
12 kits per 40'

### Aurora 3 10kW

1.7 x 1 x 1  
2 pallets per kit



### #AUR-3-10

6 kits per 20'  
12 kits per 40'



## HELIOS OFF-GRID

0.5kW / 1kW / 2kW / 3kW

### Product Description

Helios Off Grid Solar Kits are designed for easy installation and low maintenance. Off Grid solar systems are noiseless, produce zero emissions, and offer grid independence, unlike standard On-Grid PV Systems which will not provide electricity to your house during a power outage due to safety regulations.



#### Full Independence

Helios Off-Grid systems are independent of the standard utility grid, and can typically deliver the equivalent expectations of the traditional grid.



#### Increase your value

Increase the value of your home and business by giving them total grid independence and stop relying on the grid with this added value.



#### Light up your world

Bring power to areas with limited or no access to electricity, whether it's a remote cabin, your business, or your residence, we have a solution that can fit any installation requirements.

### What's in the Box

- Solar modules
- Off-grid inverter/charger
- Custom roof mounting system
- Battery bank
- Battery storage unit
- PV, battery bank & grounding wiring harnesses
- DC and AC disconnects
- Wire management kit
- Grounding hardware
- Safety label kit
- Single and three-line electrical and mechanical schematics

### Total Electrical Independence

With a Lead Acid Battery backbone and transformer based inverter, Helios kits require no grid connection and are a great option for areas with limited or with no power access. Whether you will be using an off-grid solar system for your remote cabin, your place of business, or your full-time residence, Symtech Solar has an off-grid solution that can fit almost any installation requirement. Symtech Solar'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

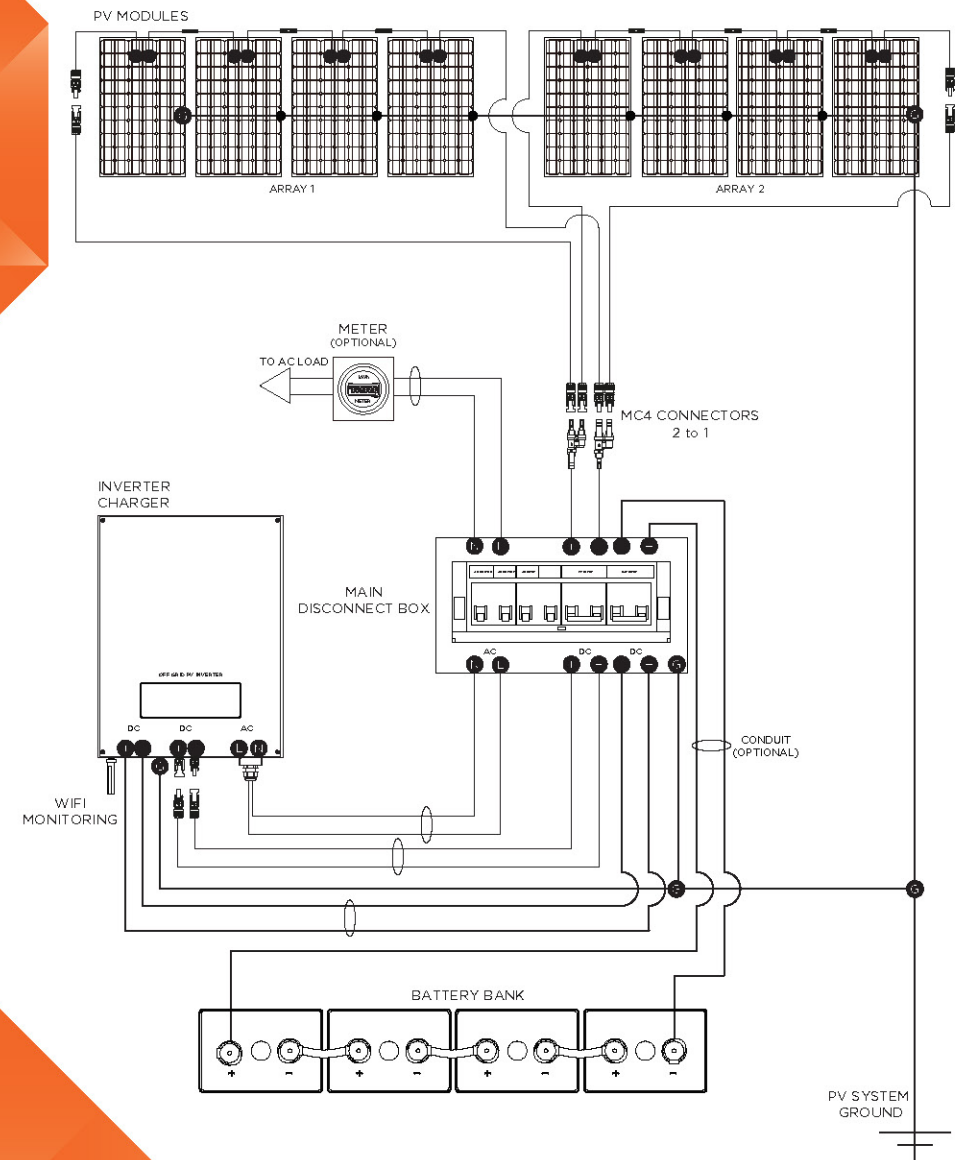
### Common Applications

- Installation sites where bringing in the electricity from the grid is too expensive
- 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

## HELIOS Off-Grid Series

PRODUCT NAME	Helios - 0.5kW	Helios - 1kW	Helios - 2kW	Helios - 3kW
Product Series	530	1060	2120	3180
System Size Nominal (kWp)	HEL-0.5	HEL-1	HEL-2	HEL-3
Part #				
PV MODULE SPECIFICATIONS (Poly)				
Power (W)		265		
Vmp (V)		31.1		
Voc (V)		38.2		
Isc (A)		9.1		
Imp (A)		8.55		
Dimensions (L / W / H) (mm)		1638 x 982 x 35		
PV module weight (kg)		19.5		
Certifications	TUV (IE61215 & IEC61730) / VDE (IEC61215 & IEC61730) / UL / CE – TUV (IEC61215 & IEC61730) / CE			
OFF GRID INVERTER SPECIFICATIONS				
Inverter Size (kW)	0.5	1	2	3
Max DC Power (kW)	0.7	1.4	2.8	3.5
Max DC Voltage (Vmp)	60	100	150	
MPPT Voltage range (V)	16 to 48	33 to 80	65 to 120	
No. of MPPT'S		1		
Max AC Power (W)	500	1000	2000	3000
Max Output Charge Current (A)		50		65
AC Nom. Voltage (V)	100 Vac / 110 Vac / 115 Vac /120 Vac 3 2% or 200 Vac / 220 Vac / 230 Vac / 240 Vac 3 2% (settable)			
AC Grid Frequency range (Hz)	50-60			
Number of Phases	1			
Dimensions (W / D / H) (mm)		365.5 x 442 x 210		
Inverter Weight (kg)	16.6	19.5	30.4	38.5
Certifications/Standards	CE - IEC62040, IEC / EN 61000			
BATTERY BANK SPECIFICATIONS				
Type	Lead Acid Gel (VRLA)			
Battery Voltage (V)	6	6	6	6
Bank Voltage (V)	12	24	48	
Battery Current (Ah)	200	200	200	335
Bank Current (Ah)	200	200	200	335
Battery Bank Power - Total (Wh)	2400	4800	9600	16080
Battery Bank Power - 50% DOD (Wh)	1200	2400	4800	8040
Battery Dimensions (L / W / H) (mm)	328 / 172 / 222	522 / 240 / 219	295 / 178 / 425	
Battery Weight (kg)		29		45.5
Full Cycles (50% DoD)		1200		
Designed Depth of Discharge (DoD)		50%		
Total Batteries - *storage can be increased	2	4	8	8
Connection	Series			
Certifications	CE / RU / ISO 14001 / OHSAS 18001			
BOS CONFIGURATION				
AC / DC Disconnect		1/1		
Combiner Box	2 to 1		4 to 1	
*PV Wire - 4mm 1000V (m)	50	100	100	200
*Ground Wire - 4mm (m)	10		20	30
Battery Cables	Included			
*Extra wire is available upon request				
SYSTEM LAYOUT				
# of Modules	2	4	8	12
# of Inverters		1		
PV Layout options	Landscape or Portrait			
PV Array Surface Area (m2)	3.4	6.8	13.6	20.4
PV Array Weight (kg)	39	78	156	234
No. of PV Modules / String	1	2	4	4
Total Strings	2	2	2	3
PV Module String	38.2	76.4	152.8	152.8
Configure String Voc	31.1	62.2	124.4	124.4
String Vmp			8.55	
String Imp				
PRODUCTION ESTIMATES (kWh AC)				
*Projected yearly output at 1100 GHI/year	496	991	1982	2973
*Projected yearly output at 1450 GHI/year	658	1315	2631	3946
*Projected yearly output at 1825 GHI/year	822	1644	3289	4933
SYSTEM OPTIONS				
Wi-Fi Monitor	Wi-Fi or GPRS			
PV Module Type	Monocrystalline or Polycrystalline			
PV System Color	Silver or Black			
Mounting System Type Connection Types	Metal Roof, Tile roof, Asphalt Shingle, Flat Concrete, Ballast, Ground			
Battery	GEL VRLA or Tubular GEL VRLA			
SHIPPING				
PV Kit Weight (kg)	138.6	248.5	463.4	696.5
PV Kit Shipping Size (L / W / H) (m)	1.7 / 0.30 / 1	1.7 / 0.45 / 1	1.7 / 0.6 / 1	1.7 / 0.75 / 1
Total number of Boxes	1	1	2	
Packing Material	Symtech SymPack Wood Crates			

## HELIOS Off-Grid Example Layout (2kW)







## Packaging Specs

Designed to be warehouse friendly for distribution centers and local logistics companies, our kits are easily stacked, inventoried, and consolidated.

## The all-in-one Box Solution

The difference is clear, get better results with our all in a box packaging solutions. Symtech Solar's heavy duty ISPM15 compliant care design not only protects the contents during international shipping but also ensures that the solar kits arrive to their destination site undamaged and ready for installation. Symtech Solar's BOS toolboxes are included in all our solar kits and designed with the installer in mind. With years of installation experience, we understand the benefits of having a safe and well organized jobsite.



**Hellos 0.5kW**  
1.7 x 0.3 x 1  
1 kit per pallet

**#HEL-0.5**  
52 kits per 20'  
104 kits per 40'



**Hellos 2kW**  
1.7 x 0.6 x 1  
2 pallets per kit

**#HEL-2**  
13 kits per 20'  
26 kits per 40'



**Hellos 1kW**  
1.7 x 0.45 x 1  
1 kit per pallet

**#HEL-1**  
32 kits per 20'  
64 kits per 40'



**Hellos 3kW**  
1.7 x 0.75 x 1  
2 pallets per kit

**#HEL-3**  
10 kits per 20'  
20 kits per 40'



## POSEIDON WATER PUMP

1kW / 2kW / 3kW / 5kW / 10kW / 20kW

### Product Description

Poseidon water pumping PV system kits are solar powered units that enable users to irrigate water in remote locations with minimal to no grid access. Poseidon Solar Water Pump kits are reliable, stand-alone systems that require no fuel, batteries and require minimal maintenance.



#### Ready for any scale

Poseidon solar water pump systems are highly versatile and dynamic in their application, from small scale agricultural use to large scale municipality water projects.



#### Weather resistant

Designed for easy installation, yet engineered particularly robust to withstand inclement outdoor weather conditions.



#### Adaptable to your needs

With multiple submersible pump sizes offered, users have flexibility in choosing well water head, depths and required daily water flows.

### What's in the Box

- Solar modules
- Solar pumping inverter
- Float switch
- Custom ground mounting system
- PV wiring and grounding harnesses
- DC disconnects
- Wire management kit
- Grounding hardware
- Safety label kit
- Single and three-line electrical and mechanical schematics



### Solar Irrigation Made Simple

Poseidon solar pump kits are designed to extract water for diversified range of agricultural applications including livestock and crop irrigation. These systems require no batteries and are often used in remote areas where the cost of running traditional AC powered water pumping is cost prohibitive. These systems are typically ground mounted and are offered in a variety of different volume and head sizes adjusting to most well requirements.

### 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 Applications

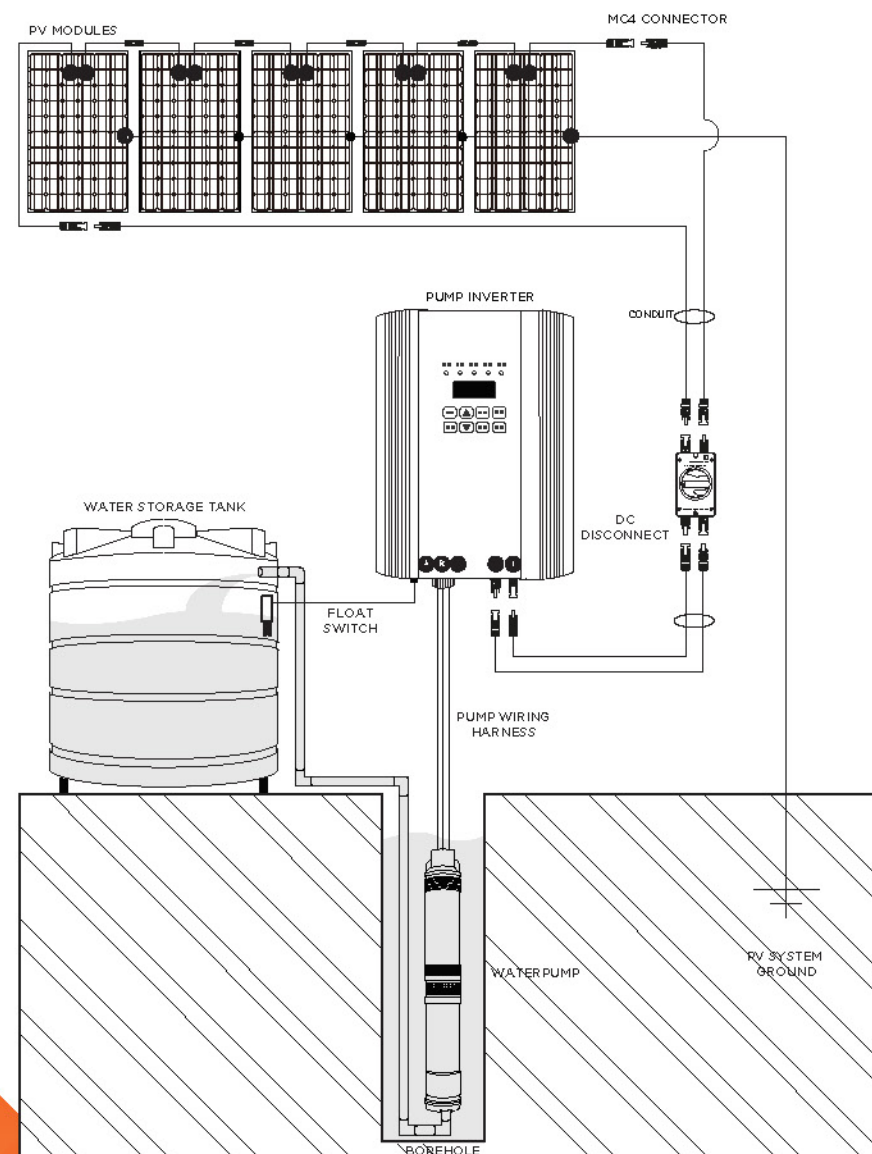
- Livestock
- Agricultural irrigation (row crop, center pivot, large scale drip)
- Wildlife irrigation systems
- Homes, farms, ranches and cabins
- Villages, businesses, and communities



## POSEIDON Solar Water Pump Kits

Product Name	Poseidon - 1	Poseidon - 2	Poseidon - 3	Poseidon - 5	Poseidon - 10	Poseidon - 20
Product Series	Poseidon					
System Size Nominal (kWp)	0.795	212	265	5.3	10.6	21.2
Part #	POS-1-DC	POS-2-DC	POS-3-DC	POS-5-AC	POS-10-AC	POS-20-AC
<b>PV MODULE SPECIFICATIONS (*PoK)</b>						
Power (W)	265					
Vmp (V)	31.1					
Voc (V)	38.2					
Isc (A)	9.1					
Imp (A)	8.55					
Dimensions (L x W x H) (mm)	1638 x 982 x 35					
PV module weight (kg)	19.5					
Certification Standards	TUV (IEC61215 & IEC61730) / VDE (IEC61215 & IEC61730) / UL / CE – TUV (IEC61215 & IEC61730) / CE					
<b>INVERTER SPECIFICATIONS</b>						
Inverter Type	DC			AC		
Inverter Size (kW)	0.6	1.2	1.8	5.5	7.5	15
Max DC Power (kW)	1	2.2	3	5.5	11	22
Max DC Voltage (V)	150	200		850		
MPPT Voltage range (V)	60 - 120	120 - 160		500 - 700		
No. of MPPT's	1			1		
Max Output Current (A)	13	11	16	13	18	30
AC Nom. Voltage (V)	N/A			380		
AC Frequency range (Hz)	N/A			50		
Number of Phases	N/A			3		
Dimensions (L x W x H) (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		9.5	14.5	15
Certification Standards	CE - EN 61000-6-3:2007, EN 61000-6-1:2007, IEC 61000-4-2, IEC 61000-4-3, EN 50178:1997					
Warranty (years)	3					
<b>*WATER PUMP SPECS</b>						
Pump Power (kW)	0.6	1.1	1.5	3	5.5	13
**Daily Water Flow (m <sup>3</sup> )	2 to 18	18 to 33	34 to 76	10 to 20	80 to 160	700 to 1100
**Water Head Range (m)	80 to 18	43 to 22	34 to 16	145 to 90	79 to 43	22 to 18
Pump Outlet - Hose Diameter (mm)	25	40	50	30	65	150
Well Diameter (mm)	125		125		200 - 250	200 - 250
AC Input Voltage (V/AC)	N/A			380		
AC Frequency (Hz)	N/A			50		
Dimensions (L x W) (mm)	560 x 100	850 x 100	859 x 100	1563 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/m <sup>2</sup> /day **Other Pump flow and head variations available upon request						
<b>BOS CONFIGURATION</b>						
DC Disconnect	1	2		1	2	4
*PV Wire - 4mm 1000V (m)	50	50	100	100	100	200
*Pump Power Cable (m)	50	75	100	100	100	150
*Ground Wire - 4mm x (m)	50	50	50	100	100	100
*Extra wire is available upon request						
<b>SYSTEM LAYOUT</b>						
# of Modules	3	8	10	20	40	80
# of Inverters	1			1		
PV Layout options	Portrait or Landscape					
PV Array Surface Area (m <sup>2</sup> )	5.1	13.6	17	3.4	6.8	13.6
PV Array Weight (kg)	58.5	156	195	390	780	1560
No. of Modules/String	3	4	5	20		
String Voc	114.6	152.8	191	76.4		
Configuration String Vmp	93.3	124.4	155.5	62.2		
String Imp	8.55			8.55		
<b>SYSTEM OPTIONS</b>						
Wi-Fi Monitor	Wi-Fi or GPRS					
PV System Color	Silver or Black Module					
PV Mounting System Type	Metal Roof, Tile roof, Asphalt Shingle, Flat Roof, Ground Mount					
Accessories	Float Switch			Float Switch - Gnd / Diesel Back-Up		
<b>SHIPPING</b>						
PV Kit Weight (kg)	122.1	220.3	255	459.5	854.5	1635
PV Kit Shipping Size (L x W x H) (m)	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
Packing Material	Symtech SymPack Wood Crates					

## POSEIDON Water Pump Example Layout (1kW)





### The all-in-one Box Solution

The difference is clear, get better results with our all in a box packaging solutions. Symtech Solar's heavy duty ISPM15 compliant care design not only protects the contents during international shipping but also ensures that the solar kits arrive to their destination site undamaged and ready for installation. Symtech Solar's BOS toolboxes are included in all our solar kits and designed with the installer in mind. With years of installation experience, we understand the benefits of having a safe and well organized jobsite.



### Packaging Specs

Designed to be warehouse friendly for distribution centers and local logistics companies, our kits are easily stacked, inventoried, and consolidated.

#### Poseldon 1kW

1.7 x 0.45 x 1  
1 kit per pallet

#### #POS-1

38 kits per 20'  
76 kits per 40'



#### Poseldon 2kW

1.7 x 0.55 x 1  
1 kit per pallet

#### #POS-2

26 kits per 20'  
52 kits per 40'



#### Poseldon 3kW

1.7 x 0.70 x 1  
1 kit per pallet

#### #POS-3

20 kits per 20'  
40 kits per 40'



#### Poseldon 5kW

1.7 x 1.1 x 1  
1 kit per pallet

#### #POS-5

12 kits per 20'  
24 kits per 40'



#### Poseldon 10kW

1.7 x 1.1 x 1  
2 pallets per kit

#### #POS-10

6 kits per 20'  
12 kits per 40'



#### Poseldon 20kW

1.7 x 1.1 x 1  
2 pallets per kit

#### #POS-20

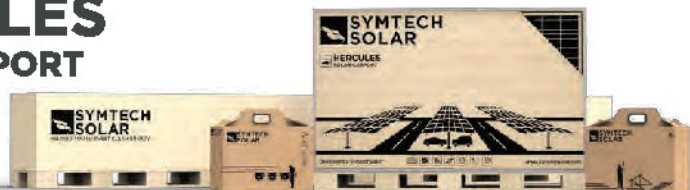
3 kits per 20'  
6 kits per 40'





# HERCULES SOLAR CARPORT

5kW / 10kW / 20kW / 50kW



## Product Description

The Hercules solar carport are designed to utilize new or existing parking areas and generate power without sacrificing real estate. Typically offered as an On-Grid PV solution, their innovative design delivers a cross-platform solution combining energy generation and a substitute to shading/weather protection for vehicles.



### Space optimizer

Ideal for sites that are restricted in space. Our carport kits serve as an economical alternative to traditional carport structures.



### Weather resistant

Hercules kits use solar modules for the roofing canopy and are structurally engineered to guarantee corrosion and wind resistance ensuring a good as gold performance to price ratio.

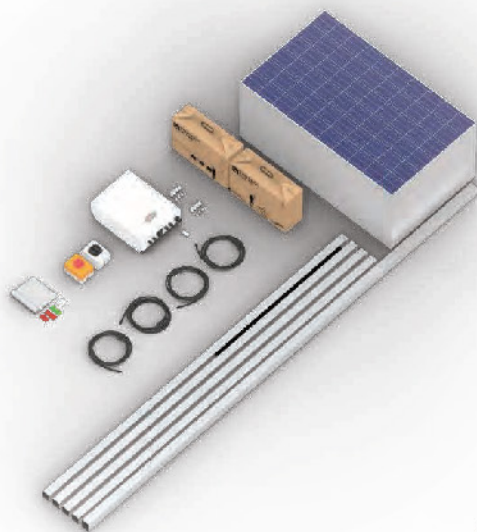


### Thought for the future

Hercules carport grid tie systems are compatible with most electric vehicle charging stations, making them an innovative, clean and environment-friendly fuel source platform.

## What's in the Box

- Solar modules
- Solar on-grid inverter
- Custom carport mounting system
- PV wiring and grounding harnesses
- DC and AC disconnects
- Wire management kit
- Grounding hardware
- Safety label kit
- Single and three-line electrical and mechanical schematics



## Your Own Solar Power Plant

Hercules solar canopies are an innovative product that can turn a typical, non-productive parking lot or walkway into a cost effective solar power plant. With no field welding, drilling, or other on-site fabrication, hercules solar carports are ready to install upon delivery. Manufactured & designed for simplicity, practicality, & peace of mind.

## Product Benefits

- Multi benefit functionality including solar energy and covered parking technology
- Simple and elegant design
- Easily scalable from 5kW to 5MW
- Reduce the carbon emissions from vehicles (when used as a charging station)

## Common Applications

- Commercial centers
- Schools
- Residential homes
- Shopping centers and malls
- Housing developments
- Car charging stations

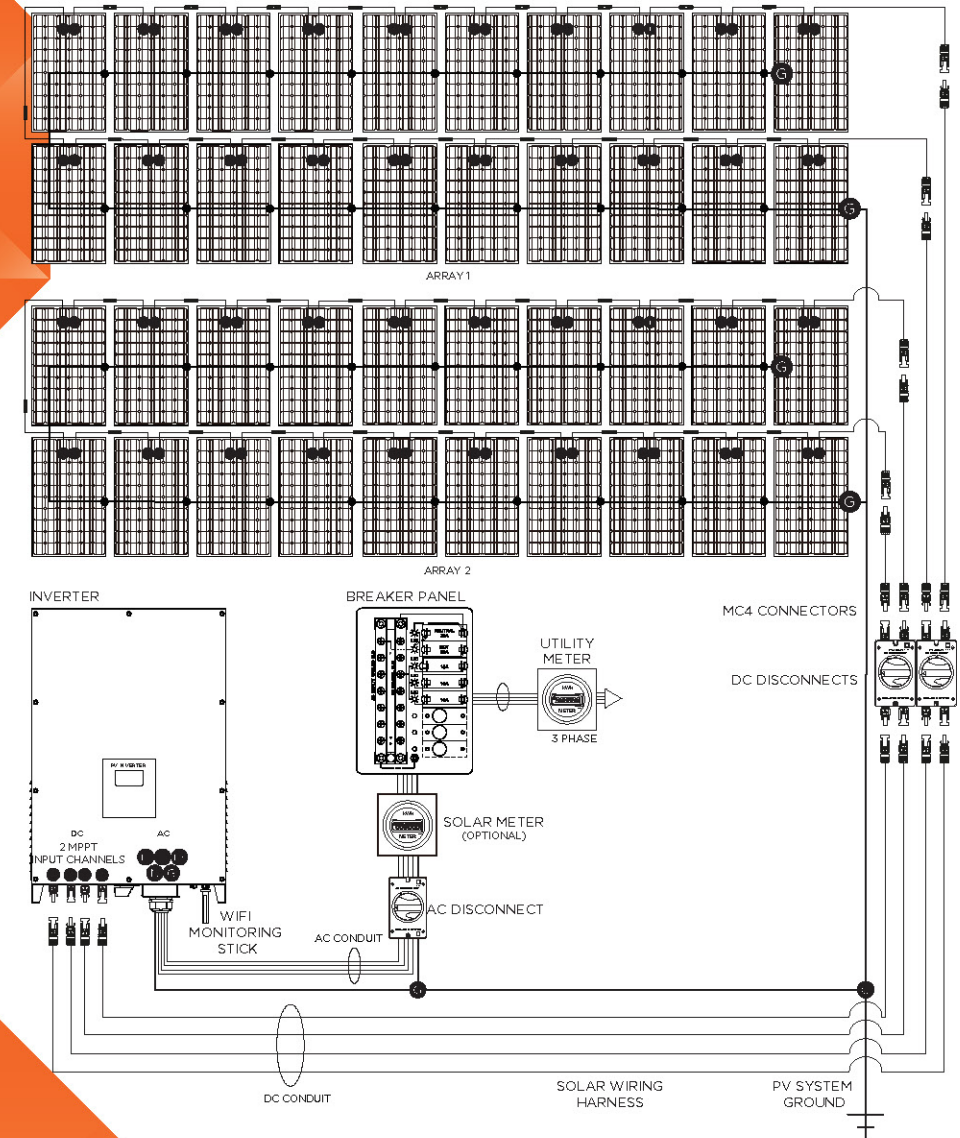


## HERCULES Solar Carport Systems

PRODUCT NAME	Hercules - 5kW	Hercules - 10kW	Hercules - 20kW	Hercules - 50kW
Product Series	Hercules Series			
System Size Nominal (kWp)	5.3	10.6	21.2	53
Part #	HER-5	HER-10	HER-20	HER-50
Parking Spaces (for average compact car)	2	4	8	20
PV MODULE SPECIFICATIONS (*Poly)				
Power (W)	265			
Vmp (V)	31.1			
Voc (V)	38.2			
Isc (A)	9.1			
Imp (A)	8.55			
Dimensions (L / W / H) (mm)	1638 x 982 x 35			
PV module weight (kg)	19.5			
Certifications	TUV (IE61215 & IEC61730) / VDE (IEC61215 & IEC61730) / UL / CE — TUV (IEC61215 & IEC61730) / CE			
*Monocrystalline PV modules also available upon request - 72 Cell modules also available upon request				
INVERTER SPEC (*230V-480V Nominal)				
Inverter Size (kW)	5	10	20	50
Max DC Power (kW)	5800	11500	24000	55
Max DC Voltage (V)	600	1000		1100
MPPT Voltage range (V)	100-500	200-800		200 to 1000
No. of MPPT's/Max Strings	2 / 2	4 / 8		4 / 12
Max AC Power (kW)	5.5	11	22	50
Max Output Current (A)	45.9			80
AC Nom. Voltage/Voltage Range (V)	230V / 160 to 285		400 / 304-460	
AC Grid Frequency range (Hz)			50-60	
Number of Phases	1		3	
Dimensions (L / W / H) (mm)	310 x 543 x 160	430 x 613 x 269	530 x 700 x 357	630 x 700 x 357
Inverter Weight (kg)	11.5	29	57.2	53
Certifications	CAN / CSA C22.2 N107.1, UL 1741, UL 1998, UL 1699B, FCC part 15, Class B — AS4777, AS / NZS 3100, CE, VDE 0126-1-1, DK5940, G83 / 1-1, G59 / 2, RD 1663, EN50438, VDE-AR-N4105, CEI-021, IEC-62109, ENEL-Guide			
*120/240/480V UL inverters also available upon request				
BOS CONFIGURATION (1000VDC)				
AC / DC Disconnect	1 / 2	1 / 2	1 / 4	2 / 10
*PV Wire - 4mm 1000V (meters)	100	200	350	500
*Ground Wire - 4mm (meters)			50	
*Extra wire is available upon request				
SYSTEM LAYOUT				
# of Modules	20	40	80	200
PV Layout options	Landscape or Portrait			
PV Array Surface Area (m2)	34	68	136	340
PV Array Weight (kg)	390	780	1560	3900
PV Module String Configuration 600VDC — 1000VDC	No. of Modules/String	10	20	
	Total Strings	2	4	10
	String Voc - Poly	382	764	
	String Vmp - Poly	311	622	
	String Imp		8.55	
PRODUCTION ESTIMATES (kWh AC)				
*Projected yearly output (kWh/y) at 1100kWh/year	4955.5	9911	19822	49555
*Projected yearly output (kWh/y) at 1460kWh/year	6577.3	13154.6	26309.2	65773
*Projected yearly output (kWh/y) at 1825kWh/year	8221.625	16443.25	32886.5	82222
*Based on 0.85% system derating (formula = DC Power x peak sunshine hours/year x derate factor) (GHI = Global Horizontal Irradiance)				
SYSTEM OPTIONS				
Wi-Fi Monitor	Wi-Fi or GPRS			
PV Module Type	Monocrystalline or Polycrystalline - 60 or 72 Cell			
PV System Color	Silver or Black			
SHIPPING				
PV Kit Weight (kg)	750	1500	2400	7500
PV Kit Shipping Size (L / W / H) (m)	1.7 / 1.1 / 1 — 4 / 0.6 / 0.6	1.7 / 1.1 / 1 — 4 / 1.2 / 0.5	1.7 / 1.1 / 1 — 4 / 1.2 / 1.2	20' Container
Total number of Boxes	2	3	5	1
Packing Material	Symtech SymPack Wood Crates			Cardboard/Pallets

## HERCULES Solar Carport Example Layout (10kW)

### PV MODULES





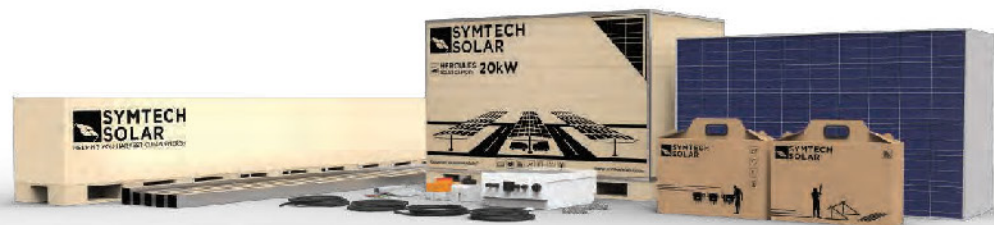


## Packaging Specs

Designed to be warehouse friendly for distribution centers and local logistics companies, our kits are easily stacked, inventoried, and consolidated.

## The all-in-one Box Solution

The difference is clear, get better results with our all in a box packaging solutions. Symtech Solar's heavy duty ISPM15 compliant care design not only protects the contents during international shipping but also ensures that the solar kits arrive to their destination site undamaged and ready for installation. Symtech Solar's BOS toolboxes are included in all our solar kits and designed with the installer in mind. With years of installation experience, we understand the benefits of having a safe and well organized jobsite.



### Hercules 5kW

1.7 x 0.7 x 1  
1 kit per pallet

### #HER-5

6 kits per 20'  
12 kits per 40'



### Hercules 10kW

1.7 x 0.9 x 1  
1 kit per pallet

### #HER-10

4 kits per 20'  
9 kits per 40'



### Hercules 20kW

1.7 x 1 x 1  
1 kit per pallet

### #HER-20

2 kits per 20'  
5 kits per 40'



### Hercules 50kW

1.7 x 1 x 1  
1 kit per pallet

### #HER-50

1 kit per 20'  
2 kits per 40'



## EOS STREET LIGHT

LED 40W / 60W / 80W / 100W

### Product Description

The EOS Solar Street Light is one of the most innovative outdoor solar lighting solutions on the market today, combining the best technology of solar, battery and LED lighting into one seamless solution to simplify planning and installation for any street or parking lot illumination project.



#### Ready to go

With state of the art batteries, mono crystalline PV cells, high efficiency LED chips, and adjustable PIR or microwave sensor technology, EOS lights are ready to install, often in less than 20 minutes.



#### Great adaptability

With multiple power options, a variety of mounting pole sizes, adjustable timed display/output settings available, EOS offers any project a highly efficient, maintenance-free solution.

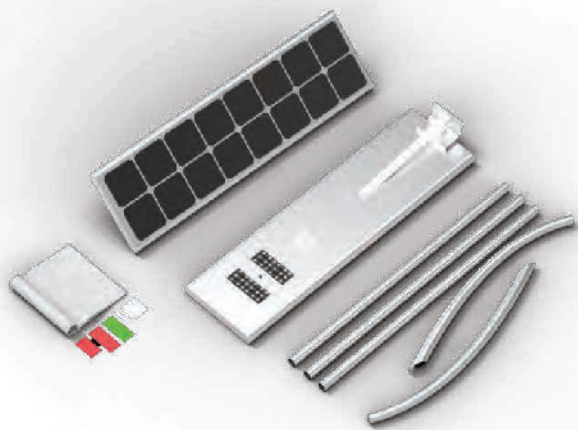


#### Superior packaging

Symtech Solar's elegant cardboard packaging minimizes the storage requirement of the EOS solar street light units. Easily inventory units in warehouses and retail shops.

### What's in the Box

- Solar module
- LED lamp
- Motion sensor
- Controller
- Battery
- Mounting bracket
- Optional mounting pole



### A Simplified Lighting System

EOS solar powered street lighting systems are an efficient means of providing lighting without the need for standard utility power. By eliminating the need to trench standard AC wiring, every system provides cost savings and maintains no electric bills for the life of the system.

### Product Benefits

- Simple to install and operate
- Automatic dimming function (PIR sensor technology)
- Completely independent from the grid

### Common Applications

- Roadsides and highways
- Parks and sports fields
- Courtyards
- Commercial parking lots

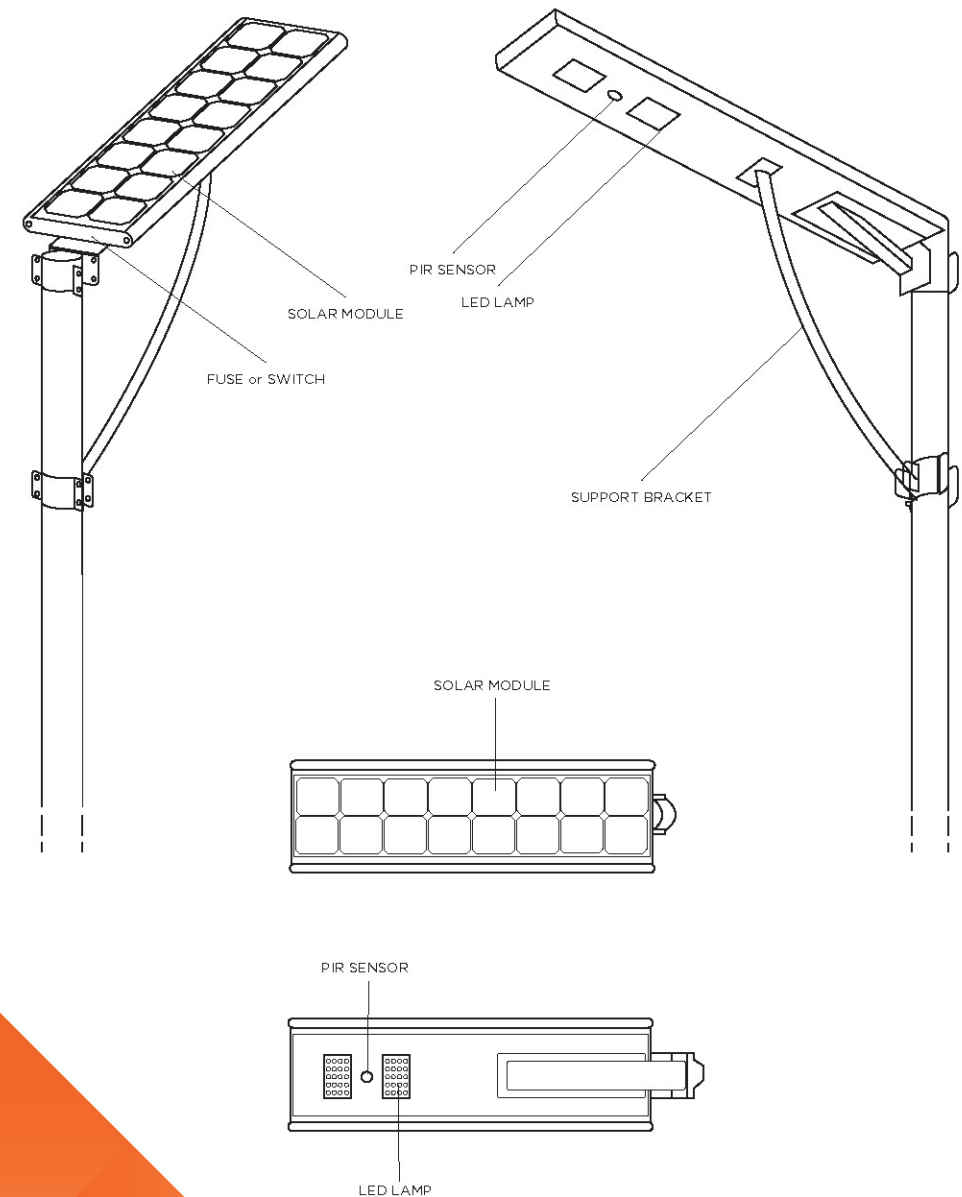




## EOS Solar Street Lights

PRODUCT NAME	Eos - 60W LED 120W Solar	Eos - 80W LED 130W Solar	Eos - 100W LED 140W Solar	Eos 2 - 40w LED 130W Solar	Eos 2 - 60w LED 160W Solar	Eos 2 - 100w LED 320W Solar
Product Series	Eos Series					
Part #	EOS-120	EOS-130	EOS-140	EOS 2-130	EOS 2-160	EOS 2-320
PV MODULE SPECIFICATIONS MONO						
Power (W)	120	130	140	130	160	320
Vmp (V)		18			18.5	
Imp (A)	7.4	7.8	8.1	7.8	8.65	17.3
Dimensions (L x W x D) (mm)	1078 x 525 x 140		1550 x 450 x 140	1235 x 670 x 35	1482 x 670 x 35	1482 x 1340 x 35
LED SPECIFICATIONS						
LED SIZE (W)	60	80	100	40	60	100
Full Power Lumens (lm)	8400	10,250	12,750	5000	8000	12500
Power Save Mode Lumens (lm)	2800	3415	4250	1667	2667	4167
Light Beam Angle (degrees)		120			65 to 150	
LED Chip Brand		Philips Luxeon			Cree	
Life Hours (h)			50,000+			
BATTERY BANK SPECIFICATIONS						
Type		Li-Ion (LiFePO4)			Lead Acid Gel	
Battery Voltage (V)		12.8			12	
Battery Current (Ah)	42	54	56	140	200	300
Full Cycles		2500			900	
Designed Depth of Discharge (DoD%)		80			50	
Charge Time via Sun (h)	6 to 7	7 to 8		6 to 7	12	
Discharge Time (hours in power save mode)	20+	24+		20+		
Operation Temperature (°C)		-20 to 60			-20 to 50	
MOUNTING POLE & LAMP						
Suggested Pole Height (m)	9 to 10		10 to 12	6 to 8	8 to 9	9 to 10
Space Between Lights/Poles (m)	24 to 29					
Lamp Material	Aluminum Alloy					
PRODUCT INFO						
Warranty (y)				3		
Charge Controller Type				MPPT		
Pole Included	No				Yes	
SYSTEM OPTIONS / RATINGS						
Solar Street Light Color	Aluminum Alloy			Gray, White or Black		
Weather Rating				IP65		
Certifications				CE		
SHIPPING						
Solar Street Light Weight (kg)	24	30		40	50	80
Solar Street Light Shipping Size (L x W x D) (mm)	1185 x 580 x 200	1657 x 505 x 200		1100 / 570 / 200	1100 / 650 / 400	1100 / 750 / 500
20' Container Loading (units)	200					
Packing Material	Cardboard					

## HERCULES Solar Carport Example Layout (10kW)





### The all-in-one Box Solution

The difference is clear, get better results with our all in a box packaging solutions. Symtech Solar's elegant cardboard packaging minimizes the storage requirement of the EOS solar street light units. Easily inventory units in warehouses and retail shops.



### Packaging Specs

Designed to be warehouse friendly for distribution centers and local logistics companies, our kits are easily stacked, inventoried, and consolidated.

**Eos 120W**  
1.18 x 0.58 x 0.2  
1 kit per box

**#EOS-120**  
260 kits per 20'  
520 kits per 40'



**Eos 130W**  
1.65 x 0.5 x 0.2  
1 kit per box

**#EOS-130**  
209 kits per 20'  
418 kits per 40'



**Eos 140W**  
1.65 x 0.5 x 0.2  
1 kit per box

**#EOS-140**  
209 kits per 20'  
418 kits per 40'



**Eos2 130W**  
1.1 x 0.57 x 0.2  
1 kit per box

**#EOS2-130**  
296 kits per 20'  
592 kits per 40'



**Eos2 160W**  
1.1 x 0.65 x 0.4  
1 kit per box

**#EOS2-160**  
128 kits per 20'  
256 kits per 40'



**Eos2 320W**  
1.7 x 0.75 x 0.5  
1 kit per box

**#POS-20**  
75 kits per 20'  
150 kits per 40'





# MEGATRON BATTERY BANK

840kWh / 2000kWh



## Product Description

Symtech's Megatron Solar Energy Battery System is an enclosed battery solution that incorporates proprietary battery management, communication, and control technology to provide maximum performance and battery life.



### Multiple applications

Applications of the Megatron include backup power, peak shaving, time of use bill management, frequency regulation, voltage support, renewable integration, and islanding.



### Ready to fit anywhere

Designed to be readily compatible with many power conversion systems, this is the ideal platform for energy storage system integrators seeking to provide the most reliable solutions.

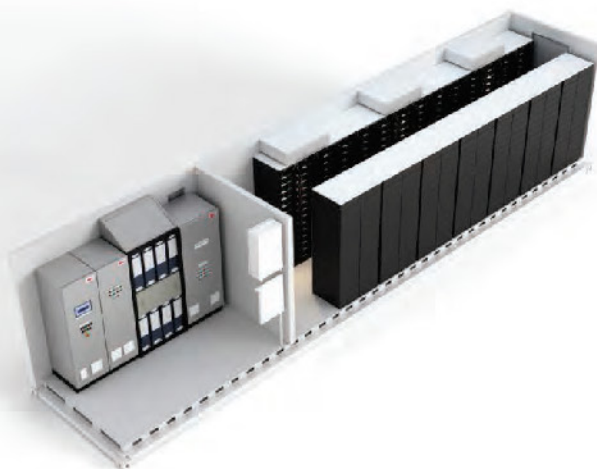


### The future of solar energy storage

Efficiency, safety and durability in energy storage. Megatron is the solar energy storage platform of the future.

## What's in the Box

- Lithium Ion batteries
- HVAC system
- DC panel
- AC panel
- DC to AC converter
- Monitoring system
- DC and AC disconnects
- NEMA 3R climate controlled container



## Large Scale Li-Ion Battery

Megatron can perform a wide variety of front of the meter, behind the meter, and micro grid applications to fulfill today's energy storage requirements, but is designed to be flexible enough to be prepared for the future. Outdoor installations come in 31MWh (20 foot) or 2MWh (40 foot) containers that have been optimized for ideal energy density with simplified maintenance access.

## Product Benefits

- Demand charge reduction
- Peak load shifting
- Full back-up power
- Small footprint to power ratio
- Fast response time

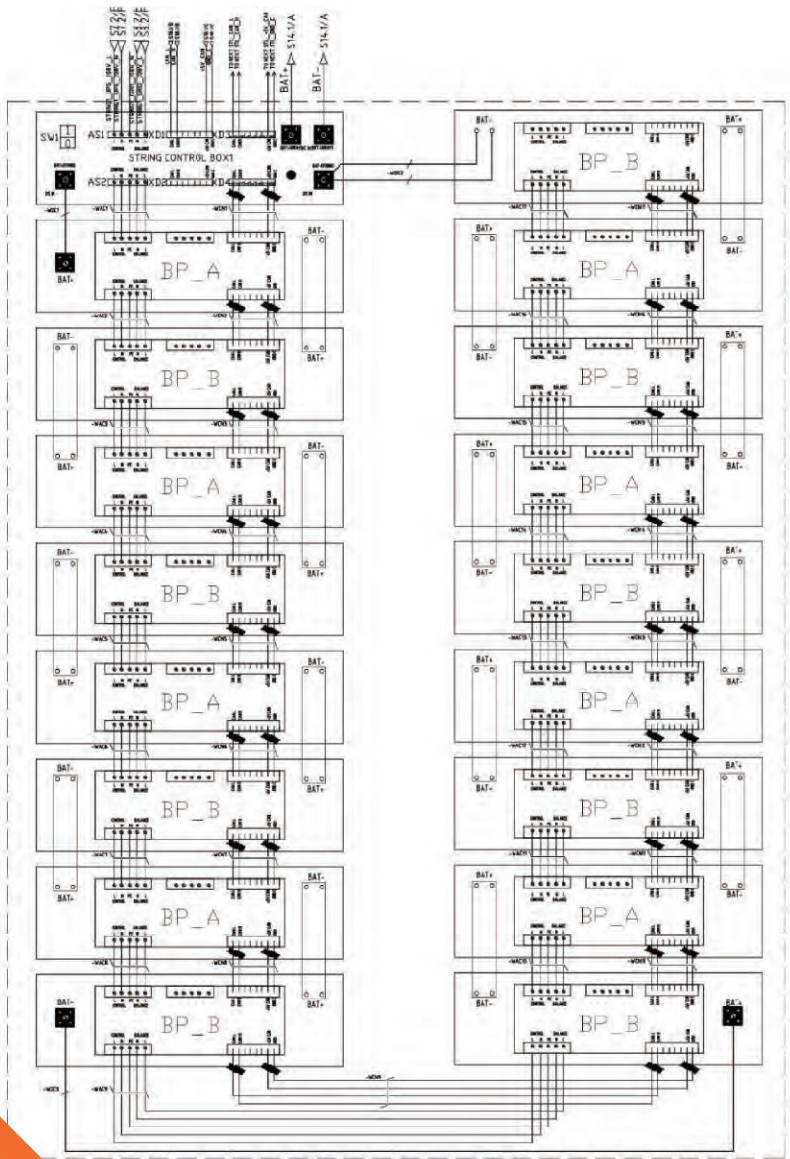
## Common Applications

- Micro grids
- Factories
- Shipping and distribution centers
- Office buildings
- Schools and libraries

MEGATRON Battery Bank Series

PRODUCT NAME		Megatron - 840	Megatron - 2000
Product Series		Megatron	
System Size Nominal (kW)		840	2000
Part #		MEG-840-20	MEG-2000-40
BATTERY BANK SPECIFICATION			
Type			
Energy Capacity (kWh)		840	2000
DC Voltage Range (V)		720 - 990	
System Response Time		Typically less than 1 second	
Designed Depth of Discharge (DoD %)		100	
Battery Connection		Series / Parallel	
Efficiency (%)		93 to 98	
Certifications		UL1642, Designed for UL1973, UL9540	
BMS SPECIFICATIONS			
PV Input	Inverter Size (kW)	125	500
	Max PV Power (kWDC)	150	750
	Max PV Input Voltage (V)	1000	
	Max PV Input Current (A)	250	1250
	MPPT Voltage Range (V)	500 - 800	
	No. Of MPPT's	1	
AC Input/Output	Max AC Output Power (kW)	125	500
	Max Output Current (A)	160	800
	AC Nom. Voltage (V)	400 and 480	
	AC Grid Frequency Range (Hz)	50 to 60	
	Number of Phases	3	
	Transformer Specifications	TBD	
Certifications		UL1741, IEEE1547a, UL991	
BOS			
DC Disconnects		Included	
DC Disconnects Voltage Rating PV (V)		1000	
DC Disconnects Current Rating PV (A)		16	
AC Disconnects		Included	
AC Disconnects Voltage Rating (V)		600	
AC Disconnects Current Rating (A)		200	1000
MONITORING			
Software Type		SCADA	
Communication		Modbus TCP	
Monitoring		Performance and Environmental Monitoring	
SYSTEM PARAMETERS			
Waterproof Level		NEMA3R	
Storage Temperature Range (°C)		-20 to 50	
Full Lifetime Cycles		4000+	
Cooling		Forced air HVAC unit is included	
Warranty (years)		10	
SHIPPING			
Container Weight (kg)		14000	33000
Total number of Containers		1 unit of 20'	1 unit of 40'

MEGATRON Battery Bank Series Example Layout







Symtech Solar | Product Line

Symtech Solar | Product Line

## Packaging Specs

Designed to be warehouse friendly for distribution centers and local logistics companies, our kits are easily stacked, inventoried, and consolidated.

**Megatron 840**  
14000kg

**#MEG-840-20**  
1 unit of 20'

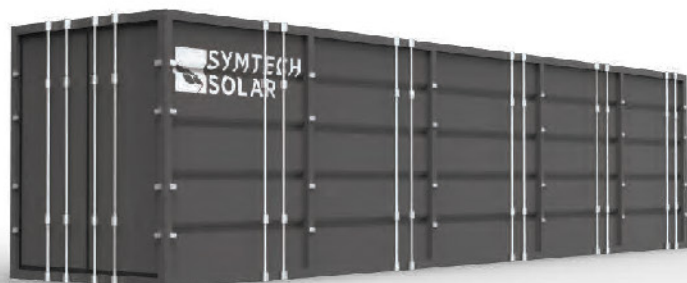
**Megatron 2000**  
33000kg

**#MEG-2000-40**  
1 unit of 40'



## The all-in-one Box Solution

Take comfort in your investment with Symtech's solar energy battery systems. With industry advancing proprietary software that looks after your BESS the BMS (battery management system) system optimizes the efficiency of the entire unit down to the individual cells in each battery pack. Efficiency, safety and durability in energy storage. Megatron is the solar energy storage platform of the future.



## Our Solutions

### Custom Solar & Engineering Solutions

Our PV Systems are available fully pre-engineered and are ready to be installed at your desired location. Our residential and commercial product applications are available for multiple layouts and can be designed for your specific site characteristics.

Currently Symtech Solar uses a multilateral approach to bring you the best products and designs required for almost any solar projects. We are the boots on the ground here in China which allows our clients to feel safe about what they purchase. Our team often organizes factory production and quality control inspections and tours for our clients. This enhances the working relationship and trust ensuring solar projects are designed and manufactured to specification.

Tailored solutions can include:

- Module Design Size & Technology including custom BIPV modules
- Wiring Harness Design and Layouts
- Inverter Sizing and Monitoring Options
- Mounting Systems (Ground/Roof/BIPV)
- Combiner Boxes
- Battery Banks
- DC/AC Disconnects
- System Designs

By integrating Symtech Solar's Engineering & Design team with top industry partners, we are able to offer PV project design and pre-planning:

- Product Selection
- Feasibility Studies
- Engineering Design
- Equipment Procurement
- Project Management
- System Maintenance

Long life and high performance of PV systems come partially from selecting the right solar PV system components. Manufacturing practices and solar products are often changing and/or upgrading and Symtech Solar has direct access to the newest and best products coming out of China and abroad. Our engineering and design team will work directly with you to efficiently design and deliver your preferred energy solution.

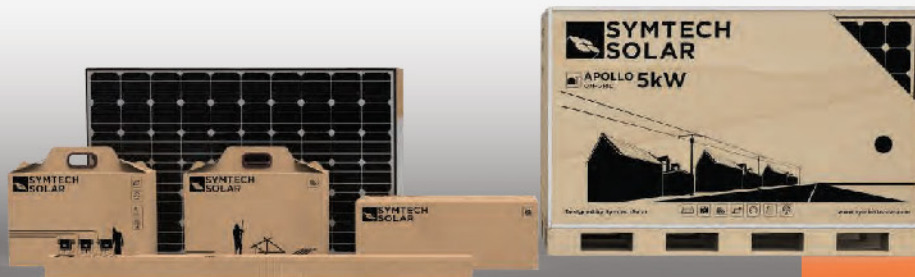


## Sympack Technology

Symtech Solar's packaging solutions are more than just a container, they are specifically designed for international shipping efficiency, warehouse operations, and safer delivery. Pioneering solar kit solutions is our focus and our attitude is to offer a design that delivers lower overall handling cost, time-saving and process efficiency gains ensuring safer delivery of our products. We consider every aspect of the fully packaged solution including materials, standardization, and the packaging process to ensure you have the perfect balance of effectiveness from delivery to installation.

Benefits include:

- Industry leading product protection for global shipping safety
- Robust and easy to handle designs
- Ideally suited for stacking, shipping, and inventory management
- Specially designed for efficient containerized shipping
- BOS toolbox design for easier organizations in the installation site



## Shipping & Logistics

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

Our services include the following:

Container Load Consolidation

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



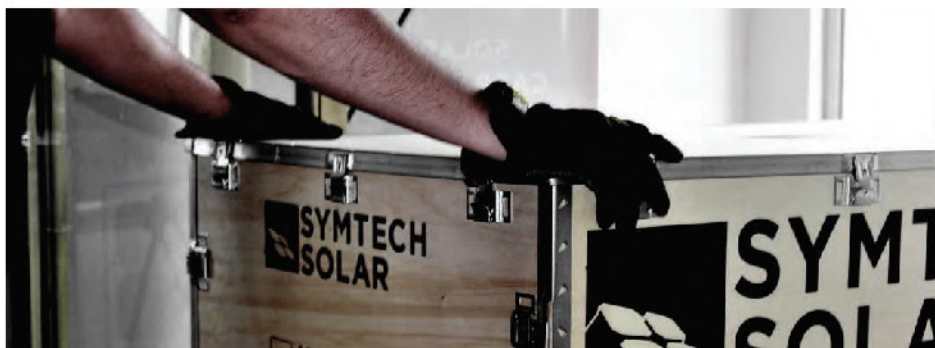
## Quality Assurance

By using our prior knowledge and experience in the PV certification industry (TÜV), Symtech Solar 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.



Symtech Solar 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.



**NOTE, IMPORTANT INSTALLATION:** It is the responsibility of the purchaser to ensure that all products are installed and operated in accordance with local and national building codes as specific by the NEC (National Electric Code), IBC (International Building Code) and local utility company policy. These codes may vary from city to city and county to county. All grid-tied solar installations should be permitted and inspected, where required, by the local inspection authority in the same manner as other equivalent electrical systems. Symtech Solar recommends you contract a local licensed electrician to do the final electrical connection of your solar system from the AC disconnect to your home utility breaker box. Some local permitting authorities require that a licensed electrician do all the wiring from the rack to the utility interconnect.

Product dimensions and physical appearance in this catalogue are nominal and are provided for the convenience of our customers. Symtech Solar Group reserves the right to make changes from time to time, without prior notification, which may change the dimensions and/or physical appearance shown.

We therefore recommend you consult a Symtech Solar sales representative before its purchase.

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## Glossary

### Anti-islanding

The instance where a grid-tied system can detect a problem such as a power outage and will shut itself off, no longer providing power from the solar panels to the home. This law is protected by the federal government, safety and other potential hazards.

### Balance of Systems (BOS)

Components used in the PV kit that move the DC energy produced by the solar panels through the conversion system and turns it into AC electricity found in one's home.

### Building Integrated Photovoltaic (BIPV)

Materials used to replace conventional building material

### Combiner Box

A device that combines the output of multiple strings of PV modules for connection to the inverter.

### Drop Ship

A term uses in the manufacturing and transportation industry where a product (shipment) is conveniently dropped (delivered) directly to the customer, without going through multiple distribution channels.

### Engineering Procurement Construction (EPC)

The arrangements of large scale projects within infrastructure, mining, anything the general energy industry.

### Grounding Lugs

The fastening component that hold the PV kits to the desired structure (i.e. the roof) a home heating, ventilation and air conditioning (HVAC) - the technology of indoor vehicular environmental comfort.

### Inverter

A device that converts direct current into alternating current.

### Monocrystalline Cell

Solar panels made from single silicon crystals on the form of a thin wafer.

### Net-Metering

A term used for when you sell the excess electricity, generated from the solar panels, back to the utility company.

### Non-Government Organization (NGO)

Organizations that are neither part of a government nor a conventional for profit business.

### Off-Grid

A term used when a home's electric power structure is completely independent of the local grid system. For example, in remote areas like a farm or a cabin when the grid is non-existent or too expensive to use, this is called "off-grid".

### On-Grid / Grid Tied

A term used for when a home's electric power structure is solely supported by the city's utility system. For example, if your home is powered by the local utility company, the house is "on-grid".

### Photovoltaic (PV) Cell

A semiconductor diode that converts sunlight or any artificial light to into direct current (DC).

### Polycrystalline Cell

A solar panel made from a highly purified form of silicon, in thin wafers that often reflect blue in color.

### Turnkey

Ready to install.





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