SYMTECH SOLAR

# Datasheets

## HELIOS OFF-GRID

Off-Grid
Photovoltaic System Kits

# 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 Independance

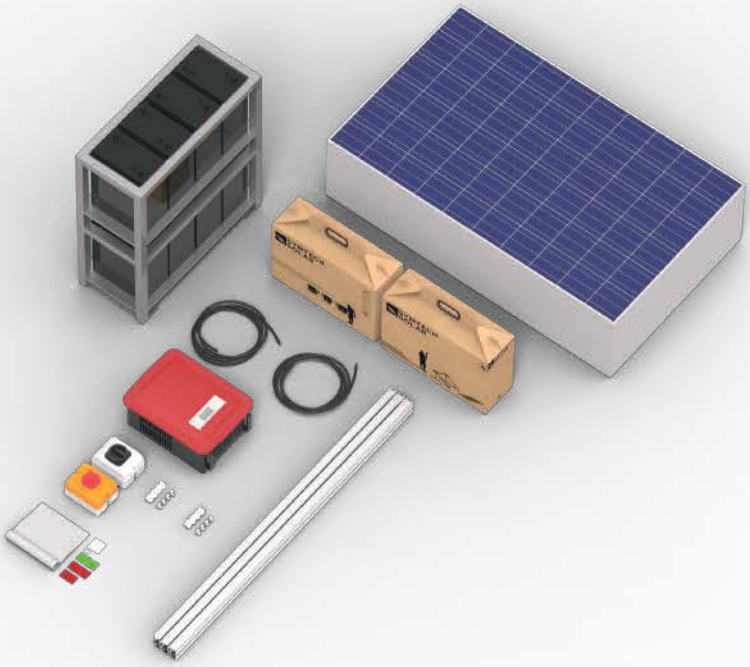
Helios Off-Grid systems are independent of the standard utility grid, and can typically deliver the equivalent expectations of the traditional grid.

### Increase your value

Increase the value of your home and business by giving them total grid independance 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 lebel 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 problemsof grid blackouts

## Common Applications

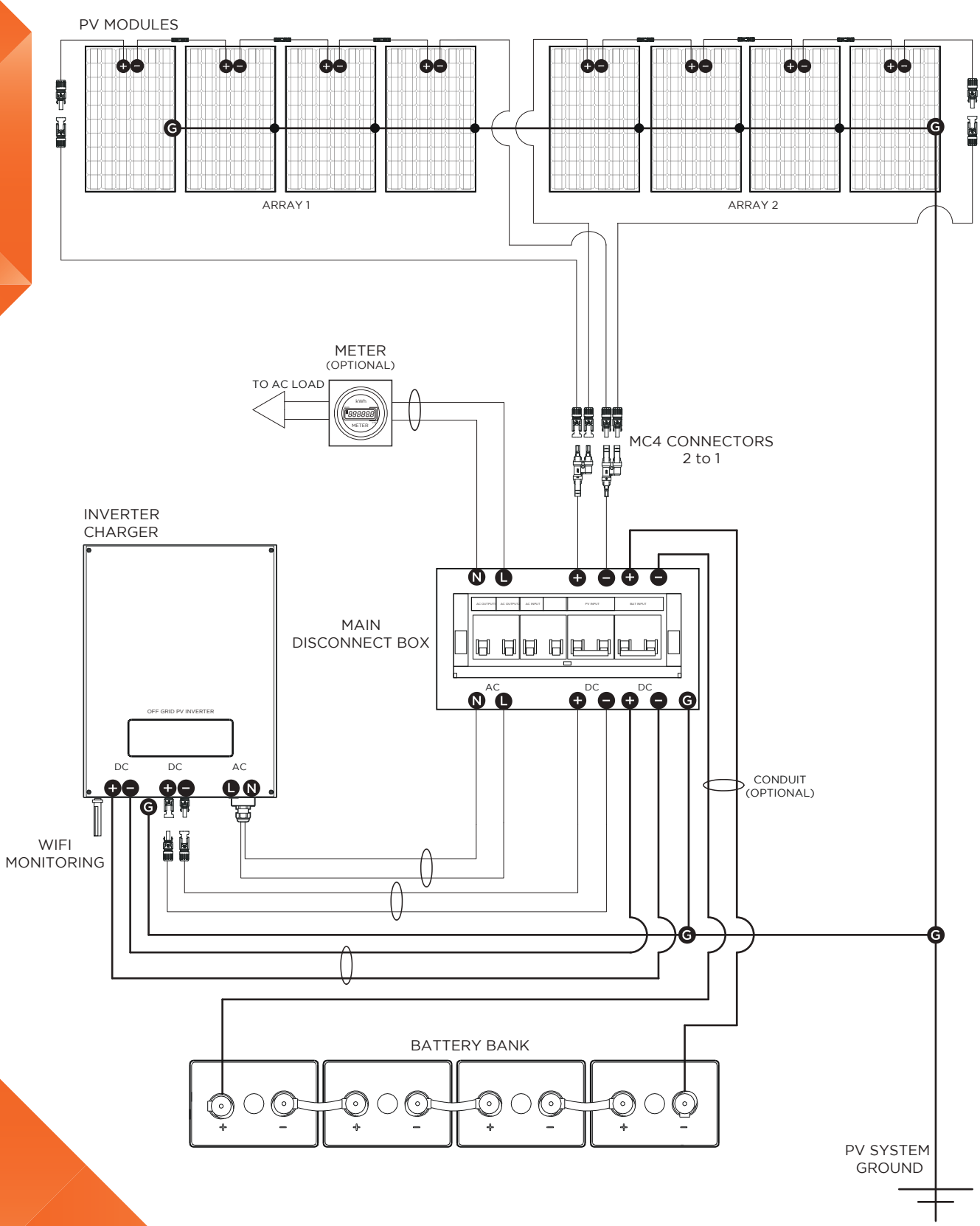
- Installation sites where bringing in the electricity from the grid is too expensive
- Locations where liquid fuel costs are too high or difficult to maintain
- Those looking to be completely independent from the grid
- Those who cannot afford to lose power or have power outages

# HELIOS Off-Grid Series

| PRODUCT NAME | Helios - 0.5kW | Helios - 1kW | Helios - 2kW | Helios - 3kW |
|---|---|---|---|---|
| **Product Series** | Helios | | | |
| **System Size Nominal (kWp)** | 530 | 1060 | 2120 | 3180 |
| **Part #** | HEL-0.5 | HEL-1 | HEL-2 | HEL-3 |
| **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 × 442 × 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 | | | |
| **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 |
| **PV Module String Configuration** — **No. of PV Modules / String** | 1 | 2 | 4 | 4 |
| **PV Module String Configuration** — **Total Strings** | 2 | 2 | 2 | 3 |
| **PV Module String Configuration** — **String Voc** | 38.2 | 76.4 | 152.8 | 152.8 |
| **PV Module String Configuration** — **String Vmp** | 31.1 | 62.2 | 124.4 | 124.4 |
| **PV Module String Configuration** — **String Imp** | 8.55 | | | |
| **PRODUCTION ESTIMATES** (kWh AC) | | | | |
| ***Projected yearly output at 1100 GHI/year (kWh's AC)** | 496 | 991 | 1982 | 2973 |
| ***Projected yearly output at 1460 GHI/year (kWh's AC)** | 658 | 1315 | 2631 | 3946 |
| ***Projected yearly output at 1825 GHI/year (kWh's AC)** | 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 | | | |

**Extra wire is available upon request*

# HELIOS Off-Grid Exmaple 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.

**Helios 0.5kW** **#HEL-0.5**
1.7 x 0.3 x 1
1 kit per pallet
52 kits per 20'
104 kits per 40'


**Helios 1kW** **#HEL-1**
1.7 x 0.45 x 1
1 kit per pallet
32 kits per 20'
64 kits per 40'


**Helios 2kW** **#HEL-2**
1.7 x 0.6 x 1
2 pallets per kit
13 kits per 20'
26 kits per 40'


**Helios 3kW** **#HEL-3**
1.7 x 0.75 x 1
2 pallets per kit
10 kits per 20'
20 kits per 40'

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