



# Barefoot<sup>®</sup> Power



**Save money**  
No running costs

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**Improve health**  
No smoke or burns

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**Generate income**  
Charges phones and devices

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**Improve education**  
Light for studying

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**Save the environment**  
No kerosene or fumes

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## Power Accessories



RADIO



PHONE



FAN



TV

The Barefoot Connect range of solar home systems is designed to meet the needs of households and businesses without reliable access to electricity. Barefoot Connect offers durable, convenient, and affordable solar home systems. All Connect systems include a quality power controller, efficient LED lights and a robust polycrystalline solar panel.

Barefoot Connect includes two USB outputs and one 12V socket enabling users to charge multiple phones and other devices simultaneously.

Barefoot Connect will provide ultra bright light for four rooms.

The plug-and-play Connect kits come with everything needed for installation, including wiring clips and wall-screws for neat and easy installation without an electrician.

The Barefoot Connect controller includes advanced four-stage charging technology and protection circuits to extend the life of the battery.

The microprocessor-controlled system also includes LED indicators to show how much power remains in the battery. As well as flashing the red low-power LED, Barefoot Connect will double flash all the lights if power is running low so the user is not left in the dark.

All Connect systems, including batteries, are maintenance-free and have no running costs. The Connect series of products is backed by a comprehensive warranty. Connect products provide brighter and safer lighting and will save the user money every day.



## Product Highlights :

- The Barefoot Connect SHS is a complete solar home-lighting system that provides abundant light from 4 bright LED tube lights as well as convenient phone charging.
- Simple plug-and-play installation does not require an electrician or trained service person. All necessary components are included for a fast, neat and easy installation.
- A high-tech controller extends the life of your battery and provides constant power through the USB and 12V outputs.
- The 4 bright LED tube lamps can light up four rooms or can be used together to light up a school room, dormitory, church, mosque, hall or other large room.
- Two USB outputs allow charging of two phones or devices at once, keeping you and your family connected and contactable.
- The Barefoot Connect SHS is upgradable. Larger batteries and panels up to a total of 60W can be added to the system.
- Barefoot Power provides a warranty on all Connect systems and components.

**BATTERY****12V 40Ah****SOLAR PANEL****30W****RUN TIME****4 LAMPS 6 HOURS****RADIO****PHONE****FAN****TV**

### Detailed Technical Specifications :

<b>Solar Panel</b>	
Rated output	30 Watts peak, at standard test conditions of 1.5ATM, 25°C, 1000W/m2
Construction	Tempered glass front, anodized aluminium frame, IP65 rated with 2 bypass diodes. Integrated 0.5m cable and separate 6.5m panel cable.
Weight	4kg
Dimensions	670 x 420 x 30mm
Max Power Voltage	18 V
Max Power Current	1.67 A
Open Circuit Voltage	21.9 V
Short Circuit Current	1.79 A
Operating Temperature	-40°C to +85°C

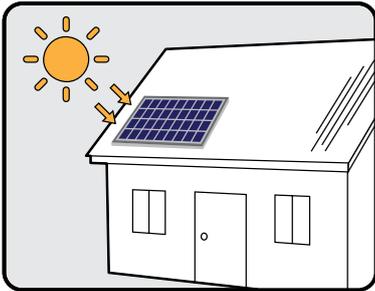
<b>Battery</b>	
	Maintenance free AGM sealed lead acid battery * Supplied separately
Capacity	40Ah (0.05C)
Nominal Voltage	12V

<b>Power System Controller</b>	
Nominal Voltage	12V
Outputs	4 x 12V lighting outputs (2A, 24W shared) 2 x 5V USB outputs (1A, 5W shared) 1 x 12V device output (2A, 24W dedicated)
Inputs	Max PV voltage: 24V Max PV Power: 60W Max PV Current: 4A
Protections	PV array short circuit, Overload, Load short circuit, PV reverse polarity, Battery reverse polarity
Battery management	4 stage charge controller Upper Charging Limit: 14.4V Absorption Voltage: 14.4V Float Voltage: 13.8V Low Voltage Disconnect: 11.8V
Self-consumption	Active mode: 9-11mA Sleep mode: <1mA

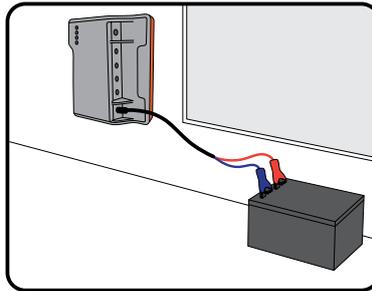
<b>LED Lamps</b>	
Number of lamps	4 ultra bright LED tube lamps,
Light output per lamp	290 lumens per ultra bright LED tube lamp
Inbuilt cable	3.75m per lamp,
Lamp cables	Four 0.5m switch cables
	Four 6m extension cables

<b>Other Included Accessories</b>	
	Mounting screws and clips

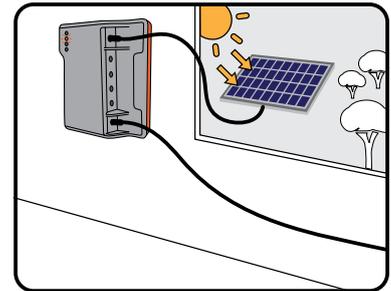
## Barefoot Connect Installation Instructions



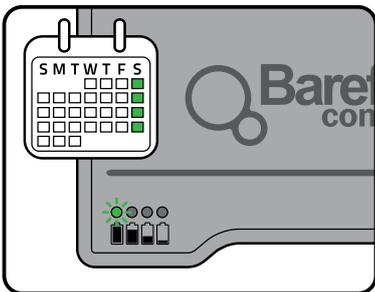
1. Permanently install the panel outdoors in direct full sun all day.



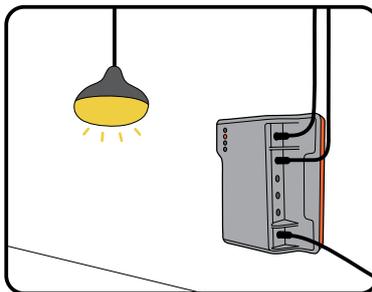
2. Install the Controller Indoors.  
Plug battery into controller.



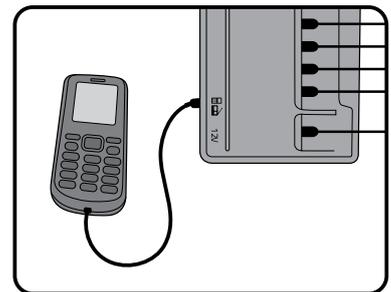
3. Plug panel into the Controller.  
LEDs will flash when charging.



4. Fully charge the battery  
at least once per week.



5. Plug lights into the controller.



6. Use the USB and 12V outputs for  
charging phones and powering  
Barefoot Power Accessories.

**START UP How is the Barefoot Connect system turned on?**

To activate the system for the first time place the solar panel in full sun and plug panel into the controller.

The Connect 600, Li and Charge controllers will automatically re-enter 'shut-down mode' if system is not used for 72 hours. To re-activate the system, after it has entered 'shut-down mode' place the panel in full sun and plug it into the controller.

**BATTERY AND CHARGING Does Barefoot Connect need to be charged before use?**

No, as long as one of the orange LEDs illuminates Barefoot Connect can be used straight away. However, the user may not get full run-time on the first night and must make sure the system charges to 100% at least once a week. The LED's will continue to flash when charging.

If the red LED or no LED illuminate, the system should be charged for one day before use.

**How do I know if the system is fully charged?**

The green LED indicator will show when the battery 100% charged.

The two orange LED indicators show when the battery is 25% to 75% charged.

The red LED indicator shows when the battery has less than 25% charge left.

**What is the difference between a sunny day of charging and full charge?**

The Energy use tables are based on available power per sunny day of charging, that is approx.

The batteries are sized to have a larger capacity. Therefore to fully charge the battery allow for at least another half day of charging.

**Can the battery be totally drained?**

No. The battery controller automatically disconnects the load when the 'low battery' point is reached in order to protect the battery. Before this happens the controller will double flash all loads on and off as a warning.

**How do I know if the system is charging correctly?**

The battery status LED's will flash when the system is charging.

**Why do the battery status LED's turn off?**

If the battery is not charging or the system is not in use the LED's will turn off to conserve power. This can happen at night or when the controller is in 'shut-down (sleep) mode'. As soon as a device or lamp is used, or the system starts charging, the controller will 'wake up' and the LED's will flash to indicate the power level again.

**Does Barefoot Connect battery need to be boosted before selling?**

Not usually. Only if the red LED comes on when it is first activated.

The Barefoot Connect should be boosted before selling to the end-user if the red LED comes on. Batteries must only be boosted via a Barefoot Connect controller with an approved Barefoot Power AC charger.

If no LEDs turn on, the system will need to be serviced by a trained technician. For full details refer to the Barefoot Power Battery Management policy.

The Barefoot Connect 600 battery must not be removed from the controller for boosting.

If the battery has been removed or the controller interfered with then the warranty is void.

**SOLAR PANEL Where should the solar panel be installed?**

The solar panel must be permanently installed outside in full sunlight where it will receive direct sun and not be overshadowed by trees or buildings. Usually the best place is on top of the roof of a building.

To maximise solar power, the solar panel should be cleaned every three months. In very dusty areas, cleaning could be required up to every two weeks.

The panel can be fixed directly to the roof. For extra security the panel can be mounted in a metal frame fixed to the roof or the top of a pole.

If the panel is mounted in a frame then allow a 10mm clearance round the panel surround for expansion in hot weather. If the panel is welded for security, ensure that the welding material does not come into contact with the panel.

It is important that the solar panel faces towards the equator at a slope equivalent to the latitude. For regions near the equator, the panel should be kept facing upwards, with a slope of 10 degrees to either the north or south. The slope helps the rain wash the panel.

### **Does the solar panel still produce power when it's cloudy?**

Yes. The amount of power produced by the solar panel is proportional to the strength of the sun. During cloudy periods, the output of the solar panel can be as low as 10% of its rated power. The battery provides some backup to ensure the lights still work after a cloudy day.

### **Is the solar panel waterproof?**

The panel is water-resistant. It is water-proof as long as the water runs off and does not enter the sealed connector box mounted on the rear of the panel. Best practise is to mount the panel with a gap between it and the roof to allow the water to run freely on the top and beneath.

Do not place the panel on the ground or where it could end up in a pool of water if it rains.

### **LIGHTS How many hours of light per lamp per night can the system run?**

All Barefoot Connect systems will run all the lights for at least 6 hours per night after one full sunny day of charging. Larger systems will power the lamps for up to 13 hours.

### **What is the maximum number of tube lamps that the Connect 2000 or 3000 can run?**

Although the Barefoot Connect 2000 and 3000 systems can operate a total of 12 tube lights, it is not recommended as the systems would need to be upgraded with larger panels and batteries to run more lamps than those included in the box.

The lamps included in the box are the recommended number to give the most efficient output and still have power left for running some accessories. **How long can the lights run on a full battery?**

All Barefoot Connect systems will run all the lights for at least 9 hours on one full battery.

### **What is the wattage and brightness of the lamps?**

Barefoot Connect Bright LED lamps produce 75 lumens at 0.75W.

Barefoot Connect Ultra Bright LED lamps produce 150 lumens at 1.5W.

Barefoot Connect Ultra Bright LED tubes produce 290 lumens at 3.0W.

### **DEVICES Why do I not get the same runtimes for lights when I use devices?**

Any device that is plugged in will draw power from the battery resulting in reduced battery capacity and shorter runtimes for the lamps – see the Energy Use tables for the various power ratings.

The Barefoot Connect systems are sized to be affordable and efficient, rather than to run everything all the time. The user will need to select a system that best suits their needs and lifestyle.

### **What devices can be charged through the USB ports?**

Any device that can be charged or powered from a computer USB can be charged from the Barefoot Connect USB output. This includes smart phones and tablets.

The USB ports on the Barefoot Connect systems are standard USB outputs of 1A at 5V.

It is important that phones or devices are unplugged when they are fully charged so that they do not keep drawing power.

To conserve power, all Barefoot Connect systems enter sleep mode when they are not being used. Leaving a device plugged in once charged, will prevent the system entering sleep mode.