

**R2**

RE-CHARGE



**AUTONOMOUS SOLAR POWERED  
WIRELESS CHARGING STATION**



**THE FUTURE`S IN CHARGE**



# PRODUCT OVERVIEW

## SELF POWERED FAST CHARGER

Re-Charge R2 is a Qi compatible fast charging device with two superfast chargers driven by high efficiency solar cells and an embedded 60-watt battery. Designed and manufactured in England from high-grade alloys, it is also fully recyclable.

The R2 multifunctional charger can charge Qi wireless devices and accessories such as Air pods without the need for trailing power cables and can be used in those hard-to-reach places thanks to being completely self-powered and fully waterproof to IP67 standards. Whether you are gazing at the stars or sunning yourself by the pool you can charge your device 24/7.



ALL WEATHER DESIGN



# HOW RE-CHARGE WORKS

## SUN, BATTERY, MAINS .

R2 is a stand-alone solar powered charger, that works by transferring the sun's energy to an internal Starline battery. A built-in power router is software controlled to allow for maximum efficiency regardless of the sun's strength. Power can be added or subtracted to the wireless chargers autonomously and the available power is calculated and distributed equally between both chargers. Solar energy is combined with the battery to turbo boost a full 15-watt fast charge to the devices.

Devices are monitored for heat and power consumption, so both chargers can be throttled to suit the environment and power resources. The R2 can also be manually fast charged via a mains adaptor at a speed of 1c and can be used internally if required, irrespective of sun or internal battery.

A full set of LED identifiers provide the user with a clear understanding of what the devices are doing:

Green - Device is charging

Yellow - Device is fully charged

Red - Not compatible or foreign object (R2 switches off)

The internal battery can store up to 65 watts of power and will withstand the most excessive of temperatures. Unlike standard lithium-ion batteries, it is also capable of many thousands of charges.

When no devices are present the R2 returns to low power mode, to assist the charging speed of the internal battery from the solar source. Re-Charge is awakened when the sensors read the presence of a phone and this also turns on the charging halo light to assist the placement of the phone at night.



FULLY AUTONOMOUS

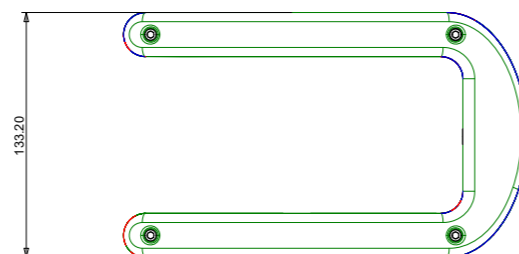
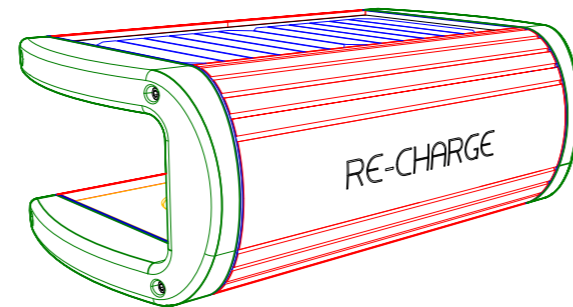
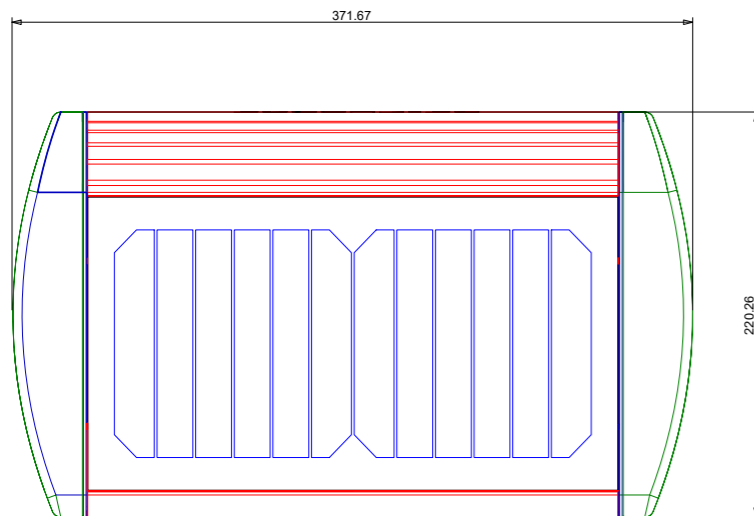


# THE TECHNOLOGY

## INTELLIGENT CPU DRIVEN ENERGY DISTRIBUTION

The Powerline internal energy router is the engine of the Re-Charge R2. A software driven CPU with a built-in watchdog handles all the power profiles whilst charging the internal Starline battery. With a single board handling all the functions of the unit, the R2 is made from anodised alloy and glass, designed to dissipate, and reflect heat away from the electronics.

New advances in solar cell technology over the last few years mean that even in low sun levels, the Skyline panels will capture sufficient sunlight to effortlessly generate the power required to support the Starline battery. After extensive tests on many widely used solar cells, Hotvolt chose the MAXEON™ GEN III SOLARCELL from Sun-power, which when compared to conventional cells, produces 25-35% more power with outstanding aesthetics, and also has the strength and durability to survive extreme conditions year after year.

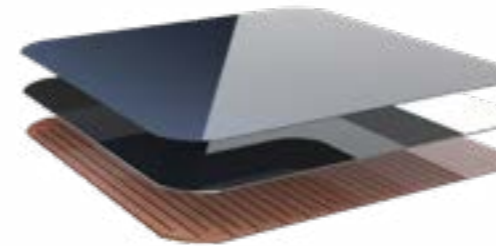


# SPECIFICATION

## WEATHER PROOF, BATTERY BACKUP, SOLAR, DUAL FAST CHARGER.

### SKYLINE SOLAR PANEL

The Skyline solar panel incorporates Sun-power's MAXEON™ GEN III solar cells.



- THESE CELLS DELIVER THE HIGHEST ENERGY PER RATED WATT COMPARED TO A CONVENTIONAL PANEL. PRODUCING UP TO 9 WATTS IN DIRECT SUN-LIGHT AT OVER 23% EFFICIENCY.
- NO LIGHT-INDUCED DEGRADATION = 2 - 3% MORE ENERGY.
- NO TEMPERATURE COEFFICIENT = 1 - 2% MORE ENERGY AT 35-40°C AMBIENT TEMPERATURE.
- LOW LIGHT AND BROAD SPECTRAL RESPONSE = UP TO 1% MORE ENERGY IN OVERCAST AND LOW-LIGHT CONDITIONS.
- ECO-FRIENDLY: SKYLINE CELLS SOLDER TO LEAD-FREE COMPONENTS AND ARE ROHS COMPLIANT. CONVENTIONAL CELLS OFTEN REQUIRE COMPONENTS WITH LEAD.

### STARLINE GRAPHENE LIFEP04 BATTERY

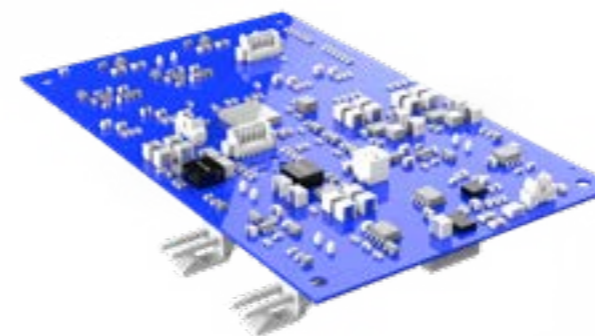
The unique and efficient charging unit's patented back up system allows the starline battery to override the solar energy channel when light conditions deteriorate either with cloud cover or night time usage.

- INDUSTRIAL 60W STARLINE BATTERY
- DEEP DISCHARGE ALLOWED UP TO 100 %
- INTERNAL RAPID CHARGE FOR STARLINE (1HR)
- NO THERMAL RUN-AWAY, NO FIRE OR EXPLOSION RISKS
- AUTOMATIC MONITORING OF CHARGE STATE TO ENSURE NO OVERHEATING OF PHONE BATTERY .
- EMBEDDED BMS (BATTERY MANAGEMENT SYSTEM)
- NO LEAD, NO HEAVY METAL, NO TOXIC ELEMENT
- EXCELLENT TEMPERATURE ROBUSTNESS (-20 °C UP TO +60 °C)
- CONSTANT POWER DURING DISCHARGE
- ENVIRONMENTALLY FRIENDLY BATTERY
- CERTIFICATION : CE, ROHS, UL, UN 38.3



### POWERLINE ENERGY ROUTER

Hotvolts energy router offers the R1 unparalleled control and intelligent energy harvesting and distribution.



- SINGLE BOARD SOLUTION
- 1C CHARGE RATE
- INTELLIGENT 15W AUTO ADJUST DEPENDING ON AVAILABLE ENERGY
- SUPER LOW POWER CONSUMPTION WHEN IN SLEEP MODE .
- AUTOMATIC MAINS SWITCH OVER
- PHONE SENSING DISTANCE 10MM
- MULTIPLE POWER PROFILES
- SOLAR POWER TURBO BOOST CONTROL
- FULLY PROGRAMMABLE FOR DIFFERENT POWER PROFILES
- SUPPORTS DATA LOGGING AND DIAGNOSTICS



# THE DESIGN

DESIGNED IN ENGLAND USING THE LATEST 3D CAD TECHNOLOGY.

Using the latest in 3d design technology, our London based design team have created Re-Charge. The final product development and design is the result of 3 years of extensive work. Our design team and the research & development team have worked very closely in order to create a robust and sustainable product that is suitable for all areas and locations without limitation. The R & D team have worked tirelessly during the project and the result is Re-Charge, the very best in class.

DAY OR NIGHT



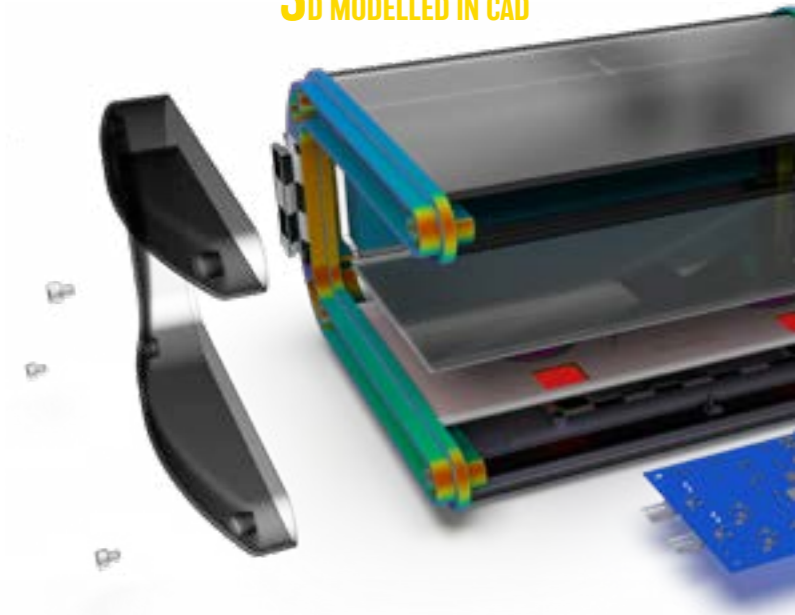
# HIGH GRADE MATERIALS

FULLY RECYCLABLE HIGH QUALITY MATERIALS USED THROUGHOUT.

## HIGH GRADE ANODISED ALLOY 4 COLOURS

A sleek, contemporary design for the modern era.

## 3D MODELLED IN CAD



## HIGH EFFICIENCY SOLAR PANEL

Sun-Power Maxeon cells

• Custom anodised colours are available on request.

## CURVED CHROME

Replaceable chrome ABS end caps

## WHITE GLASS FINISH

Frosted toughened gorilla glass for maximum safety.

## CHARGE INDICATORS

Indicators give feedback throughout the charge cycle.





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**ADAPTOR 15W 12V USB C**  
**OPTIONAL ACCESSORY**



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