

WattWorks Off-Grid DCLP Station DC LED Lighting & Solar Power Station

WattWorks DCLP STATION OVERVIEW

The DC LED Lighting and Solar PV Power Station provides lighting and power for an off-grid building.

- 24 volt DC Low Voltage Off-Grid System
- No Permit for Grid Connection Required
- FREE Solar Power = NO Monthly Electric Bill
- 30% Refund from Federal Solar ITC tax credit
- Easy Plug & Play Installation, no Electrician required
 - Solar PV panels & mounting racks
 - DC LED lighting Wall Packs
 - DC LED lighting Interior Low Bays
 - DC Power Station Control Center
 - Battery Bank & Enclosure
 - Optional DC Refrigerator or DC Well Pump
 - Optional 120VAC Inverter

24 Volt DC LED LIGHTING

Off-Grid DC LED fixtures provides the most lighting from the least power. DC LED lights are powered from the 24 volt Battery bank. The length of the prefabricated Lighting cables can be selected for your site.

OUTDOOR 24V DC LED Fixtures

Outdoor LED fixtures are controlled by the Power Station to turn on at dusk and off at dawn.

- Full Cutoff Wall Packs 2200 Lumens
- Side Throw Wall Packs 2000 Lumens
- Cobra Head Street Lights
- Shoebox Area Lights

INDOOR 24V DC LED Fixtures

LED Low Bay fixtures provide interior lighting for barns, workshops and general applications.

- DC Low-Bay Strip 3000 or 6000 Lumens
- DC T8 Tube Lights 1200 to 1800 Lumens

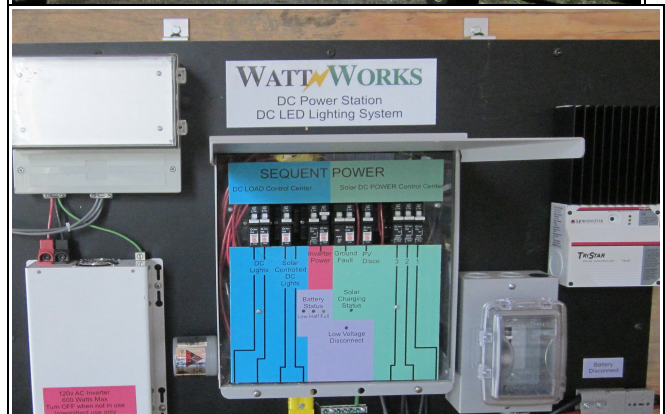
WattWorks Off-Grid POWER STATION

The WattWorks Power Station contains controllers for Solar PV, Batteries, and Lighting & other Loads

MPPT solar charge controllers protect the batteries. Circuit Breakers and Disconnects for Solar PV circuits, the Battery Bank and DC Loads are designed to comply with NEC code requirements including solar GFI and Lightning Arresters.

DC lighting circuits are controlled by a Low Voltage Disconnect (LVD) to protect the battery bank. Outdoor circuits are also controlled for night lighting by the solar cycles.

Plug-and Play installation is easy with the Connectors & Cables provided for DC lighting fixtures, Solar PV panels, and the Battery Bank. The solar panels plug in to MC4 connectors and the DC LED lights plug in to XLR and waterproof Neutrik connectors.



BATTERY BANK ENCLOSURE

The battery enclosure protects the AGM sealed lead acid Battery Bank. They are maintenance free, very reliable and can last for 10 years with proper care. NEC Compliant Circuit Breakers are included in the battery wiring harness to isolate each series string of batteries. The battery enclosure has 2 connectors, one to connect to the power station and the other to expand storage capacity with a second Battery Bank. It should be located below the WattWorks Power Station.



SOLAR POWER GENERATOR

Solar panels must be unshaded and face South for the maximum expected power production.

Solar PV panels with the racking system can be mounted to the South side of the building, or to posts or a pole set in concrete, or to a ground mount foundation. The racking is connected to a ground rod with solid copper wire.

Solar panels connect to the power station with USE-2 wire and MC-4 connectors. The length of the prefabricated Solar Panel cables can be selected for your site.



Other DC Loads

Other loads, such as a DC Well Pump, DC refrigerator, DC Freezer, DC Ventilation fans or AC 120 volt Inverter can be connected. These require built-in LVDs (Low Voltage Disconnects) or a special LVD added to the WattWorks control panel AUX DC Circuit.

Extra unused power is available during the summer to power these loads. Additional PV Panels and Batteries may be required for added loads.

Typical DC Lighting System packages

Seasonal hours of Operation will vary with latitude
 $\text{Solar Watt-hours / day} = \text{PV Watts} \times \text{hours of Sun/day}$

Basic DCLP Power Station for North 40° Latitude

500 watts PV Panels & Racking solutions
2 - LED Wall Packs, 2 - LED Indoor Low Bays
Battery Bank 4800 Watt-hours (7200 option)
Minimal Optional DC Loads

Large DCLP Power Station for North 40° Latitude

1500 Watts PV panels
6 Wall Packs or Area /Street Lights
6 to 8 Indoor Lights
Battery Bank 15000+ Watt-hours
Major Optional DC Loads



DC Well Pump



<http://www.wattworks.com/commercial-products>

WattWorks Inc.

1078 Goodale Blvd. Columbus Ohio 43212
614-458-1162