



166 Taylor Rd. Depew, New York USA 14043
Ph: (800) 310-7413 or (716) 683-2505 Fax: (716) 683-8655
Email: sales@nationalsolaronline.com
Web: www.nationalsolaronline.com



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Applications

- Building Integrated Power Source
- Parking Lot Lighting Integrated Power Source
- Walkway Lighting Integrated Power Source
- Backup Power Source For Critical Electrical Loads In A Building(s)

Standard Features

- Engineered To Outlast The Competition
- High Efficiency Solar Panels
- System Circuit Protections
- Up to 25 Year Solar Panel Warranty
- 5 Year Controller Warranty
- 2 Year Battery Warranty

Battery Technology

- Sealed Battery(s)
- Maintenance Free, Non-Spillable
- Long Life of up to 7+ Years

Benefits

- Lower Your Carbon Footprint
- Uses Grid Power As A Backup Power Source
- Lower Utility Bills
- Not Affected By Short Term Power Outages
- Not Effected By Cloudy/Low Sunlight Days
- Use Existing Infrastructure To Power Your Electrical Load(s)

N S T
NATIONAL SOLAR TECHNOLOGIES

“World Leader in Solar Power Sources and Solar Lighting Systems”

Grid Interactive Solar Power Systems



- Integrate the solar panels onto your building's rooftop



- Incorporate a small wind turbine(s) into your system



- Integrate Solar Power Into Existing Grid Powered Walkway Lighting or Parking Lot Lighting Systems

How Does A Grid Interactive Solar Power System Work?

- A grid interactive solar power system operates your electrical load(s) from the solar power source. The grid power at the site is tied into the solar power system and acts as a backup power source to the solar power. In the event that the solar power system cannot support the load, due to overcast weather, or a higher than expected need for power from the solar power system; the grid power would be turned ON and feed through the solar power system to operate the load(s) until the batteries are charged back up by the solar panels in the solar power system. So you would virtually always have a source of power to operate your load(s). This type of system is ideal for existing buildings where power is already available but you want to reduce your electric usage or for parking lots with existing lighting poles and infrastructure and you want to reduce your electric consumption from the grid. NST can also integrate high efficiency light fixture technology to reduce your load and save energy for both the solar power system use and grid power use.

Standard Solar Panel Specifications

- Tempered glass / tedlar construction for light weight, durable capsule for solar cells
- Multicrystalline or Monocrystalline solar cells
- Rigid aluminum frame
- Completely sealed from moisture
- Up to 25 Year warranty on power output/5 Year warranty on workmanship

Standard Battery Specifications

- Sealed lead acid batteries
- Maintenance free, non-spillable
- Superior battery technology for extreme climates and high vibration areas
- Amp hours vary depending on system
- Built in battery reserve capacity for cloudy / low sun days
- Typical battery operating life of up to 7+ years

Standard Controller Specifications

- Solid state solar controller with load regulation
- Pulse width modulation (PWM) charging
- Low voltage disconnect
- High voltage reconnect
- Regulates battery charging from the solar panel
- 12/24/48 Volt DC regulation
- Typical operating life 15 years

Standard Battery Enclosure Specifications

- Steel, powder coated, corrosion resistant enclosure
- Available in aluminum and stainless steel
- Available in most RAL color
- Vented for airflow and heat dissipation
- Pole mount bracket.
- Houses battery(s) and controls
- Life expectancy 25+ years

Circuit Protection

- Circuit breakers which protects the solar power input, battery power and power output to load(s)
- System grounding lug for ground connections

Standard Output Voltages Available

- Systems are available with standard AC voltages required by buildings or lighting systems
- 115VAC, 240VAC, 277VAC, 480VAC

Standard Solar Panel Mounting Structures

- 6061 aluminum corrosion resistant bracket
- Galvanized steel available
- Powder coated steel/aluminum available
- Can be ground, roof, or pole mounted solar panels

Power Inverter Standard Specifications

- Pure sine wave DC to AC power inverter
- Programmable battery charging settings
- Power inverter cooling fan
- System diagnostics display for battery voltage, load current, solar current, solar voltage

Wires and Hardware

- Connecting wire harnesses for the battery, solar and light fixture
- Mounting hardware

System Options

- Wind turbine options
- Generator back-up options
- System ground mount, roof mount, pole mount, trailer mount or custom mounting configurations

Frequently Asked Questions

• How does an NST solar power system work?

An NST solar power system uses the solar module(s) to charge battery(s) using the free solar energy. The sunlight that is absorbed by the solar panel is converted into Direct Current (DC) electricity. Generally the solar DC charging voltage is 12, 24 or 48 Volts DC. This voltage charges the system batteries. From the system batteries you can use the battery voltage to power devices or use DC to DC converters to get a different DC voltage or use a DC to AC power inverter to get AC voltages to power your electrical devices.

• How do I know what system is best for my application?

National Solar Technologies will factor your power requirements, geographic location, load operating time per day and other engineering equations to formulate the perfect NST power system for your application.

• Can I add onto my NST power system at a later time if my power requirements increase?

Yes, most NST power systems are easily adapted to adding on additional solar panels, batteries and regulating controls.

• Where can I purchase my NST solar lights and NST renewable power systems?

Call 1-800-310-7413 and an NST representative will assist you.