Silent winglets that harness the wind

Cross-sectional shape of blade

Winglets with tips cant at a specific angle generate a great amount of energy, not allowing any wind to escape. Uniquely shaped blades make very little acoustic noise as the winglets prevent eddies (turbulence) and separation of the air at the end tips of the blades.

As air flows along the blade surface smoothly, it reduces the resistance, resulting in highly efficient electric generation.

Wide range of options

・Security camera
・Wi-Fi
・Clock
・Guide plate
・Banner advertisement
・Color of the tower and/or blades
・Original sticker
・Additional batteries
・Additional LED lights

A stable light and power supply provide a sense of security when an earthquake or storm causes a power outage. NTN Green Power Station protects communities by illuminating evacuation paths and areas and providing the means to gather information when there is a power outage.

When there is a power outage, the lights go out at night and the darkness raises people's anxiety. People will not be able to use their smartphones and other electronic devices needed to gather disaster-related information or confirm the safety of their family and friends. NTN Green Power Station has a hybrid design that is useful not only when electric power is interrupted after a natural disaster, but it can also be used for ordinary security applications, using Wi-Fi and security cameras.

* Illustration and photos are for illustrative purposes only.

An example of attaching an optional clock

LED lights illuminate evacuation paths and areas, and disaster-prevention speakers are used to provide disaster-related information.

AC power supplies and USB ports function as emergency power supplies.

Provides a communication environment for local residents and tourists as a Wi-Fi hotspot.

Can be equipped with security cameras for public safety of communities.

NTN is developing businesses in the natural energy field by integrating the technology and knowhow that we have developed over the years. Products under development include NTN vertical axis wind turbines, NTN Green Power Station, and NTN micro hydro turbines that utilize highly efficient blade technology to generate electricity from less natural energy. NTN is helping to resolve the world’s environmental issues and energy problems by supplying clean energy efficiently and without emitting greenhouse gases.

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## Specifications

<table>
<thead>
<tr>
<th>Wind turbine</th>
<th>Type</th>
<th>Nominal power output</th>
<th>Wind generator size</th>
<th>Total luminous flux</th>
<th>Hue</th>
<th>Illumination</th>
<th>Type</th>
<th>Capacity</th>
<th>Output</th>
<th>Survival wind speed</th>
<th>Total weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLH220</td>
<td>-</td>
<td>Two-bladed vertical axis wind turbine</td>
<td>-</td>
<td>220W (110W×2)</td>
<td>90W</td>
<td>Controller-based</td>
<td>Deep cycle lead acid battery</td>
<td>120 Ah (40 Ah x 3)</td>
<td>AC100V/100W</td>
<td>USB 5V/1.5A</td>
<td>60 m/s (Max. instantaneous wind speed)</td>
</tr>
<tr>
<td>SLH300</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2000W</td>
<td>900lm</td>
<td>5700K</td>
<td>Controller-based</td>
<td>Deep cycle lead acid battery</td>
<td>120 Ah (40 Ah x 3/4/5/6)*</td>
<td>AC100V/100W</td>
<td>USB 5V/1.5A</td>
</tr>
<tr>
<td>SLH420</td>
<td>Two-bladed vertical axis wind turbine</td>
<td>200W</td>
<td>-</td>
<td>200W</td>
<td>900lm</td>
<td>5700K</td>
<td>Controller-based</td>
<td>Deep cycle lead acid battery</td>
<td>120 Ah (40 Ah x 3/4/5/6)*</td>
<td>AC100V/100W</td>
<td>USB 5V/1.5A</td>
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<tr>
<td>SLH700</td>
<td>Two-bladed vertical axis wind turbine</td>
<td>500W</td>
<td>-</td>
<td>220W (110W×2)</td>
<td>900lm</td>
<td>5700K</td>
<td>Controller-based</td>
<td>Deep cycle lead acid battery</td>
<td>120 Ah (40 Ah x 3/4/5/6)*</td>
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</tr>
</tbody>
</table>

* Can be added as an option.

The appearance and specifications are subject to change without prior notice.
Installation Examples and Customer Feedbacks

In 2018, a typhoon hit Iwata City, causing a power outage in many parts of the city. NTN Green Power Station, which was donated to our city, provided light without any problems. It is installed at a tsunami evacuation facility (Ryuyo Fuji) in Iwata City, an evacuation site for our citizens, as part of precautionary measures in the event of a disaster and as a reassuring presence. NTN Green Power Station is also one of the facilities of Iwata Hoven-Generation Energy Park, and is used as a place for elementary and junior high school students in the city to learn about the environment.

Kawana-shi, Mie (Kawana City Office)

NTN Green Power Stations were installed in five locations in our city. The one installed at the Nagashima Disaster Prevention Community Center, which is designated as a disaster evacuation site, is lit at night, making it easy for people to find the location of the facility, even in the event of a disaster. It can also guide people in an evacuation. The station can also be used as a local landmark. Signs that indicate evacuation sites have been installed on other stations, which has helped increase awareness of disaster prevention for local residents and ensure their safety.

Kumamoto-shi, Kumamoto (Kumamoto Prefectural Disaster Prevention Office)

In March 2016, NTN Green Power Station was donated to our city in support of hosting the Expo 2015 Osaka, Japan. Typhoon No. 21 in September 2016 caused severe damage in the vicinity, and the NTN Hybrid Street Light (now renamed NTN Green Power Station) was also damaged by flying objects. The wind turbine, however, has been running very well without major problems, after the repair. It is now used as a hybrid street light that does not require a power source, illuminating the entrance to the Sakishima government building at night, and helping to secure the safety of residents.

Kawana-shi, Mie (Kawana City Office)

In October 2015, NTN Green Power Station was installed next to a guardhouse on our premises as part of our social contribution effort to support the community in the event of a disaster. We believe it can contribute to the local community in the event of a disaster, as a street light that lights the darkness of a blacked out disaster-stricken area, and as an emergency power source in precarious situations such as when communication equipment cannot be used due to a power failure. It also has a surveillance camera, which can serve as a neighborhood watch.

Kumamoto-shi, Kumamoto (Kumamoto Prefectural Disaster Prevention Office)

Susaki-shi, Kochi (Susaki City Office)

Our school accepted up to 2,000 evacuees as a designated emergency evacuation site during the 2016 Kumamoto Earthquakes. Lifelines such as electricity, water, and gas were disrupted, and evacuees were forced to go about their lives in unstable conditions. In February 2018, we were donated two units of NTN Green Power Station with disaster prevention functions by NTN Corporation. New, their LEDS are brightly illuminating the ground for the students when they come to and leave school. We expect that these stations are going to be a big help for the people in the community when they evacuate to our school in the event of a disaster.

Kumamoto-shi, Kumamoto (Kumamoto Prefectural Prefectural Tokyo High School)