

NTN[®]

Useful Light for Emergency and Safety

Independent Power Supply System

NTN Hybrid Street Light



DAY

Solar and wind power generation

NIGHT

Wind power generation and LED illumination



CAT.NO. 8407- II / E

Solar power generation by day, wind power generation by night with blowing winds. Hybrid independent power supply system that promotes safer communities.

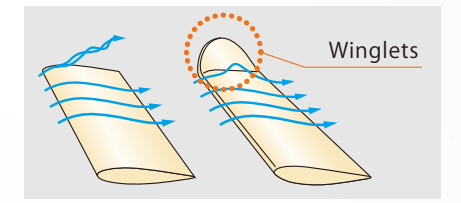


NTN Hybrid Street Light with independent power supply that generates electricity by solar and wind.

- 01 No electrical construction or electricity expenses**
The independent power supply requires no above-ground or underground wiring work, thus allowing for quick installation. Of course, no external power supply is needed!
- 02 Surprisingly quiet**
Extremely quiet even with wind speeds over 5 m/s. Due to the winglet blades and high precision NTN bearings, it has superior in silence, allowing for installation in residential areas.
- 03 Stable power generation. Plenty of electricity accumulation**
Rotation is initiated with wind speeds as low as 1 m/s in any direction (360°), providing stable electricity generation. With a full battery charge, 5 days power supply for LED lighting is possible.

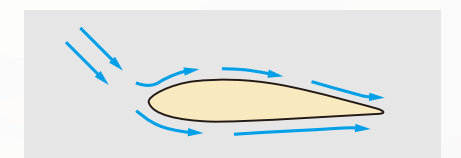
- 04 Tough for high wind**
Brake is automatically applied at wind speeds of 12 m/s or higher. In accordance with the building standards act, safe performance is confirmed for a maximum instantaneous wind speed of 60 m/s.
- 05 Sophisticated design**
It has a color tone and form that is in harmony with streets, parks, bus stops, schools, and advertisements.

Winglets that keep wind and silence



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

Cross-sectional shape of blade



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

Safety light in case of accident, casualty or disaster

Independent type NTN hybrid street light can provide light to protect the lives of residents in the area under black out by disaster. LED lights illuminate safe evacuation paths and areas, derived from green energy power by a combination of solar and wind during daytime and night time, in addition to the battery equipped.

Light provides safety, even when earthquake or storm comes. NTN Hybrid Street Light provides security to residents by illuminating safe areas through evacuation paths.



Evacuation path (side walk etc.)



Evacuation area (park)



Evacuation facility (school)



Evacuation facility (community building)



Illustration and photos are images.

Wide range of option

- Bench
- Power for emergency
- USB output
- Security camera
- Guide plate
- Colored wing of turbine

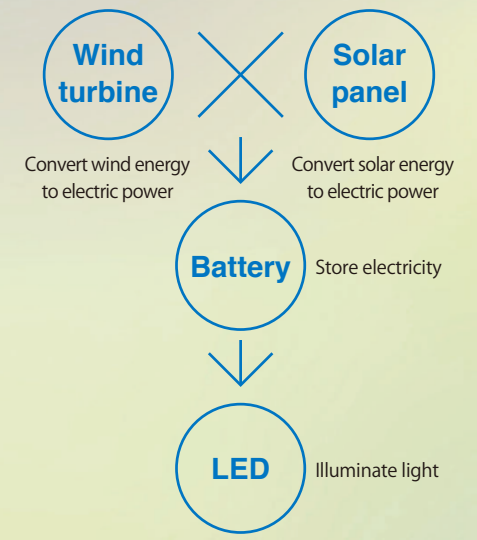
Custom logo and/or paint is available as an option

Example of option: custom color for wing and bench around the pole

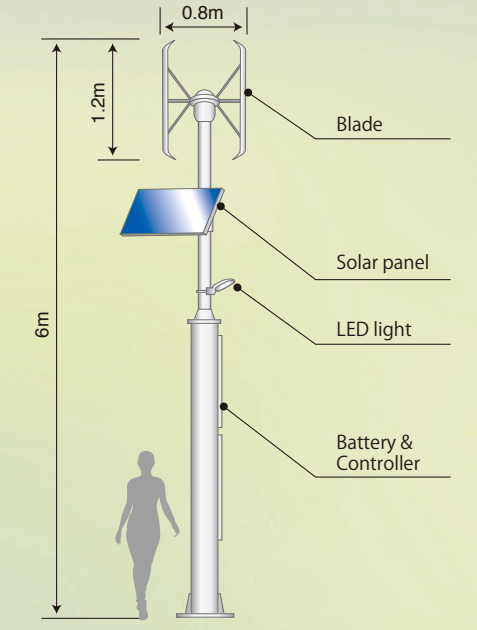


Consistent performance with Hybrid

With power by wind and solar, LED lights are illuminated during night time by battery power.



Configuration



Specification

Wind Turbine	Rated Power Output	200W
	Rotor Diameter	0.8m
	Blade Length	1.2m
	Type	Vertical axis
	Brake	Electric type
Solar Power Generator	Survival Wind Speed	60m/s (Max. instantaneous wind speed)
	Rated Power Output	90W
LED Light	Power Consumption	10W
	Illuminance	900 lm
Appearance	Design	※Options

* Appearance, specifications might be changed without notice.

Warranty

Product warranty is for ONE year.

Profile of NTN

Ever since being founded in 1918, NTN has made valuable contributions to a wide range of industries as a machinery manufacturer dealing mainly with bearings.

In the aerospace field, NTN bearings were used in the first domestically produced airplane in Japan, and has built a reputation for high quality and reliability as the only company in Japan today capable of supplying all major global jet engine companies with main shaft bearings. In the automotive field, NTN has the leading global share of hub bearings that support the wheels of cars, and the second highest share in the world for driveshafts that transmit engine power. NTN has contributed to improvements to vehicle ride comfort and fuel efficiency over many years. And in the field of high-speed rail, NTN was involved in development of the first 0 series Shinkansen from the outset, making valuable contributions to safety and comfort for more than half a century. More recently, efforts are being made for greater development and proposals of systems and module products with highly integrated technologies and knowhow fostered through existing business – the Condition Monitoring System for Wind Turbines (CMS) considered a prime example. In the aftermarket business, to support customers' business from a various angles, NTN holds the technology training services etc.

Leading Company of Rolling Bearings

Bearings support rotating portion of mechanical products such as automotive vehicle, railway car, aircraft, wind turbine, robotics and so on that working anywhere in the world. bearing is the ecological product that reduces energy consumption by lowering the friction.

Application of bearing

● Automotive vehicle



Hub bearing that supports wheel

● Aerospace



Main shaft bearing of jet engine

● Wind turbine



Extra large size bearing for main shaft

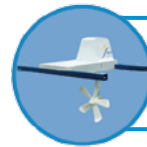
Green Energy Products of NTN

NTN, which is celebrating its 100th anniversary in 2018, is developing business in the natural energy field by fusing the technology and knowhow we have developed over the years. Products under development include small wind turbines, hybrid street lights and 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.

Product Variation of Green Energy Products



NTN Hybrid Street Light
Available since July 2016



NTN Micro Hydro Turbine
Available since July 2017



NTN Vertical Axis Wind Turbine

Inquiry



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http://www.ntnglobal.com/en/products/natural_energy/street_light.html