P. O. Box 619, Manasquan, NJ 08736. Web Site: www.a-atinc.com
T: 908-331-2804 E-mail: aat@a-atinc.com

Wind Power Grid-Connected Generation System

Introduction to scheme

The principle of wind power generation: make use of the wind power to drive the windmill blade to rotate, and then use the speed-increasing gear to increase the rotation speed and promote the generator to perform power generation. According to the current windmill technology, the small wind speed of about 3 m/s (degree of small wind) can perform power generation.

Wind power generation, which is becoming an upsurge in the world, is popular in Finland, Denmark, etc. It is also advocated in the western area of our country. Because that there is no fuel in the process of wind power generation, radiation or air pollution will not be produced.

The wind power generation system, which has high efficiency, is a system of high technology content that includes wind power generator, inverter, switching house and thunder proof system.

P. O. Box 619, Manasquan, NJ 08736. Web Site: www.a-atinc.com
T: 908-331-2804 E-mail: aat@a-atinc.com

Applicable range

Windmill generator is generally used in areas with rich wind resource (i.e. the annual average wind speed is above 3 m/s, the total hours for effective wind speed of 3 – 20 m/s is above 3000 h in one year; the annual average effective wind energy density of 3 – 20 m/s wind speed is above 100 W/m2). Sufficient survey and research shall be performed when windmill generator is chosen, so as to avoid blindness. Then, local wind power resource can be used sufficiently and the efficiency of windmill generator can be exerted to the largest degree, and the largest economic benefits can be obtained.

Function characteristics

Renewable: Wind energy is a kind of clean and renewable energy resource without pollution and it will not be used up. Compared with thermal power generation, fuel power generation and nuclear power generation, it is unnecessary to purchase fuel and pay transportation expenses, and it is also unnecessary to perform environmental treatment for residue of power generation and atmosphere.

Regionalism: Wind power generation has strong regionalism. Stations can not be established in all areas, and the stations must be established in regions with rich wind resources (i.e. the wind speed is large and its lasting time is long). The wind resource has a relationship with topography and physiognomy. Mountain pass and island are often selected (such as Dabancheng in Xinjiang: the annual average wind speed is 6.2 m/s; Huitengxile in Inner Mongolia: the annual average wind speed is 7.2 m/s; Poyang Lake in Jiangxi: the annual average wind speed is 7.6 m/s; Zhangbei in Hebei: the annual average wind speed is 6.8 m/s; Donggang in Liaoning: the annual average wind speed is 6.7 m/s; Nanao in Guangdong: the annual average wind speed is 8.5 m/s; Pingtan Island in Fujian: the annual average wind speed of the whole county is 8.4 m/s). The annual average wind speed of Haitan Island in Pingtan County is 8.5 m/s and the annual average generation hours is 3343 h, which ranks first in China at present. The number of continuous days with wind of above 6-grade of Nansha Islands in South China Sea is 160 each year. Many such places in China are waiting for our exploration and discovery.

Seasonality: Since wind has strong seasonality, power generation is performed when there is proper wind in the solution of wind power grid-connected generation, and the electricity is transmitted to power grid. And power generation is not performed when there is no wind.

Low cost: Compared with the cost of photovoltaic grid-connected generation system, the cost of wind power grid-connected generation system is largely reduced. The generated power is transmitted into power grid and uses the power grid as energy-storage device, and it is unnecessary to use accumulator , which makes the power generation cost largely reduced. Accumulator is exempted and the mean time between failures of the system is improved and the secondary pollution of accumulator is avoided.

Aesthetic property: Wind power generation unit is a kind of high-tech product and has scientific aesthetics. It is a landscape created by high-tech after the installation is completed.