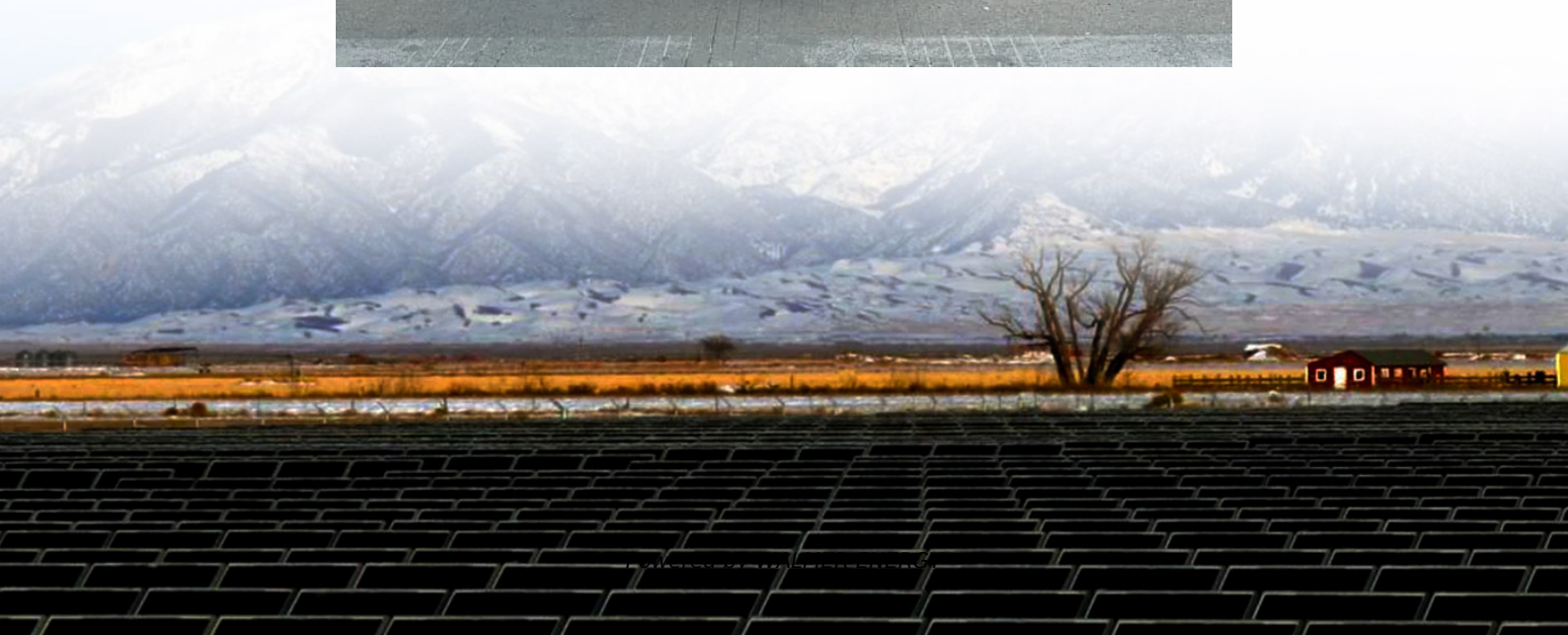


Electronic pen to measure wind power supply of base station





Overview

How accurate is wind speed measurement?

Users of wind speed measurement data for the assessment of available wind energy often request a rather high accuracy in the order of 1%, because wind energy depends on the third power of the wind speed (51.1). A 1%-error in wind speed thus means up to 3% error in wind energy.

What are the requirements for wind measurements?

The main requirement is that the measurements are representative for an area or an air volume covered by the foreseen devices for power generation. For instance, wind measurements often have to be performed at exposed sites, such as hilltops.

Where are wind measuring devices used?

The wind measuring devices for this purpose are installed on the ground, on wind turbine nacelles, and offshore on buoys and vessels. The important thing is that the technology is selected and employed in such a way as to create an optimal added value for industry and applied research.

Are wind data from remote sensing and in-situ measurements comparable?

Please note, that wind data from remote sensing and in-situ measurements are not fully comparable due to the different measurement principles (cup anemometers are in-situ instruments; sodars and wind lidars are volume-averaging instruments). Specifications of solar energy related instruments are also included in Table 51.3.



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