

Current measurement of wind power cabinet in base station





Overview

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.

Which wind direction should be considered in a base station antenna?

In aerospace and automotive industries, only unidirectional wind in the frontal direction is of concern. In the world of base station antennas, wind direction is unpredictable. Therefore, we must consider 360 degrees of wind load. Wind force on an object is complex, with drag force being the key component.

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.

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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