Solar Energy South Africa

How to adjust the photovoltaic pier support when the error occurs

Overview

The science of slope analysis uses an aerial site view to look at the height of the ground under the near end of each tracker or fixed-tilt system and the height of the ground at the far end to compute the average grade for the row.

The science of pier analysis starts with manufacturer-specified post spacing and triangulates each post location with the three, closest-available topo points as defined by either publicly.

As mentioned above, project plans based on slope analysis anticipate the need for on-site adjustments in which piers may need to be pounded.

With a project plan based on slope analysis, all piers are manufactured at a uniform height, which is typically taller than the analysis calls for to allow for on-site adjustments of each post during installation. By contrast.

Performing a detailed pier analysis on a utility scale solar project is preferable to a simple slope analysis, and modern software tools make it.

What causes disconnection of PV inverter when a fault occurs?

Three factors mainly involve in the disconnection of PV inverter when a fault occurs: 1) loss of grid voltage synchronization, 2) enormous AC current, and 3) excessive DC-link voltage. To fulfill the FRT standard requirements and keep the PV system connected to the grid, when a fault occurs two key problems should be addressed by the PV system.

What happens if a fault occurs in a solar PV system?

Reduced real time power generation and reduced life span of the solar PV system are the results if the fault in solar PV system is found undetected. Therefore, it is mandatory to identify and locate the type of fault occurring in a solar PV system.

How to improve the reliability and efficiency of solar PV system?

Reliability, efficiency and safety of solar PV systems can be enhanced by continuous monitoring of the system and detecting the faults if any as early as

possible. Reduced real time power generation and reduced life span of the solar PV system are the results if the fault in solar PV system is found undetected.

How to troubleshoot a PV system?

Troubleshooting of PV systems may involve exposure to hazardous voltage levels and should be conducted by qualified personnel only. Presence of ground faults in PV systems may result in hazardous voltages or currents on normally grounded conductors or exposed metal elements.

What changes have been made to the PV inverter controller?

A few changes were introduced for the inverter controller to allow the PV system to properly ride-through any kind of faults consistent with the GC requirements. These adjustments contain current limiters and an anti-wind-up method controlling the DC-link voltage and reactive current injection.

What happens if a PV system fails?

To fulfill the FRT standard requirements and keep the PV system connected to the grid, when a fault occurs two key problems should be addressed by the PV system. First, the AC-side inverter overcurrent in addition to DC-side (DC-link) overvoltage. The unbalance in the flow of energy from the PV side and electric grid creates this issue .

How to adjust the photovoltaic pier support when the error occurs

Failures & Defects in PV Systems: Typical Methods for ...

The visual assessment is a straightforward method and the first step to detect some failures or defects, particularly on PV modules. Visual monitoring allows one to observe most external stress cases on PV devices. Besides, this ...

A novel strategy for multitype fault diagnosis in photovoltaic ...

A novel strategy for multitype fault diagnosis in photovoltaic systems using multiple regression analysis and support vector machines , the 27th (COP27 in 2022) (Khalil and Zeid, 2023; ...

Active/reactive power control of photovoltaic ...

A number of studies have been carried out on flexible active/reactive power injection to the grid during unbalanced voltage sags with various control aims such as oscillating power control [10-12], grid voltage ...

Contact Us

For catalog requests, pricing, or partnerships, please visit:

https://ian-solar.co.za