

How do you know, if hail impact cracked the cells of your pv plant?

Without module precise monitoring and the measurement of voltage of each module, the answer is clear: you simply do not know. A recent study of TÜV Rheinland Energy GmbH found out, that “cell cracks are visually non-detectable and can strongly affect performance and may further progress with time”¹. Power losses can range up to 4%, due to these unseen damages. The only way to find cell cracks is electroluminescence analysis. But if you do not know that you have a problem, why wasting money with checking the whole plant even by suspicion?

The SunSniffer technology is able to give you a clear picture of every single module and its health status – online and in real time. And it not only shows, but additionally explains the issues of a defective module, e.g. that the power loss a module suffers from, comes exactly from a hail impact, or PID, or.... This is important to know for a plant owner, but for insurance companies as well. If you know the problem and the solution at the same time, you can react very fast – with the result of reduced downtime to a minimum, and reduced costs as no site-inspection is needed. And without the knowledge of a hidden problem like a cell crack, power losses add over time and the crack itself can lead to further and even worse damages due to intruding water, subsequent corrosion etc.

SunSniffer measures voltage and temperature at each single module, and the highly sophisticated simulation-engine in combination with an artificial intelligence allows to detect even the smallest error – with accuracy of under 1%! But the unique SunSniffer system not only detects errors, it analyses and identifies them, provides detailed instructions to operators in what, where and how has be repaired or swapped, and ensures thoroughly documentation in the end.

So how do you know about a non-visible hail damage on your plant? Simply with SunSniffer.

¹ Mathiak, G. et al. 2016: PV module damages caused by hail impact and non-uniform snow load, TÜV Rheinland Energy GmbH.