

Why is aerial thermographic inspection important for photovoltaic solar plants?

The maintenance of photovoltaic solar plants is a crucial operation to enhance availability and sustainability for power generation. Aerial thermographic inspections based on thermal cameras transported by unmanned aerial vehicles enable high-speed data acquisition and provide thermographic data about the surface condition of the panels.

How IR sensors are used in aerial inspections of PV plants?

The determination of the FOV produced by IR sensors in aerial inspections of PV plants. The technical requirement of the sensor, the specifications of the PV panels and the UAV positioning define the region of interest analyzed in the aerial operation.

Can a model based approach be used to detect PV panels?

A model-based approach for the detection of panels is proposed in : this work relies on the structural regularity of the PV arrays and introduces a novel technique for local hot spot detection from thermal images, based on a fast and effective algorithm for finding local maxima in the PV panel regions.

Can RTK systems improve GPS precision in micro-UAVs?

Masiero et al. analysed GPS precision with the application of Wi-Fi measurements to improve the positioning. This study demonstrates the importance of the application of RTK systems and aims at the implementation of this technology in micro-UAVs.

How accurate are photovoltaic maintenance activities?

The obtained results achieved 100% accuracy for panel detection and approximately 93% accuracy for fault detection. It is concluded that photovoltaic maintenance activities can be enhanced using this platform, ensuring early fault detection and enabling effective decision-making processes.

Why is RTK more accurate than GPS?

The RTK results in this scenario present lower values than the first scenario due to wind conditions and the UAV behaviour in the air. However, RTK is still providing better accuracy than the obtained with GPS, and the positions are defined in less than 10 cm, being more reliable than the GPS system in all the cases.

I got a: EF ECOFLOW Portable Power Station RIVER 2, 256Wh And a 200W panel for it. I will install that in my shed in the spring. I did a test run at the end of the season it powered the mower and RTK for a test mow with a recharge cycle.

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