

Photographing photovoltaic panels with infrared camera

How does IR camera work in a PV power plant?

IR imaging camera without any operational interruption of the PV power plant. Using the InfraRed (IR) image gathering method, temperature sequences within a module or within a larger module field can be made visible. Damaged modules, such as for example

Can a SWIR camera be used for photovoltaic solar panels?

Raptor Photonics has published an application note explaining how its SWIR (short-wave infrared) cameras can be used in drone-based electroluminescence (EL) imaging of photovoltaic (PV) solar panels.

Which IR cameras are used to capture IR images of PV modules?

Mid-wave and long-wave (3-13.5 μ m) IR cameras mounting on piloted aircraft and autonomous drones were used to capture the IR images of the PV modules. The IR image resolution varies from 3.0 to 15.0 cm/pixel due to the different distances of the IR cameras to the PV modules.

What are the advantages of infrared (IR) imaging for PV modules?

IR imaging techniques, which identify faults and problems developing with PV modules. The use of infrared (IR) imaging for the evaluation of PV modules has many advantages. First of all, a great number of failures developed on PV modules can be detected

Can IR cameras be used to inspect PV modules?

Furthermore, IR imaging technique can be applied for non-destructive testing and used to scan installed PV modules during normal operation. Finally, thermal cameras also allow scanning large areas within a short time frame. Due to the high resolution of IR cameras existing in the market today, such an inspection approach using drones, is possible.

Why is IR imaging used in PV power plants?

1. Introduction Thermography, also called infrared (IR) imaging, has been a frequently used tool for years to detect faulty or underperforming modules and strings in PV power plants. IR is so attractive because the images are taken during operation in a non-contact and non-destructive way without interfering with the electrical system.

Solar panel fields, like any other artificial infrastructure objects, require periodical inspections. ... as in most cases it saves costs compared to manned aviation and saves time compared to visual control with handheld IR camera. ... Envision ...

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