



The troubleshooter for solar energy

Q&A

Ground faults in Photovoltaics - Webinar

TUE, DEC 1, 2020 - 05:00 PM - 06:00 PM CET

TUE, DEC 1, 2020 - 10:00 AM - 11:00 AM CET

**Have you guys found that certain panel manufacturers have less ground fault issues due to higher quality controls and manufacturing processes**

- *Not really. GND faults appear on a system-level in all components.*

**What is the cost of the z200?**

- *Shoot us a note at [emazys.com](https://emazys.com) and we will send a quote,*

**Thank u perhaps photos of faults and analysis would help**

- *You can find more materials here:*

<https://emazys.com/pv-ground-fault-troubleshooting>

**How to find out Earth fault in strings??**

- *You can use our Z200 PV Analyzer for it – find our more here:*

<https://emazys.com/z200-pv-analyzer/>

**There's lots of reasons you're right! Extremely difficult to find/ressolve**

- *Yes, GND faults are a pain point to modern solar energy O&M.*

**Really good webinar!**

- *Thanks.*

**Thank you for this webinar. For sure I will forward it to my Manager for subsequent action.**

- *Thanks, you are welcome anytime.*

**Could you please show a little video of how to locate the fault?**

- *sure, it is right here: <https://www.youtube.com/watch?v=TN4R7wcE6pw>*

**Are you sending a link to the webinar? So we can see it again...**

- *Yes, it will be on our Youtube channel.*



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**good stuff thank you**

- *Thanks.*

**Do you use time domain reflectometry to calculate fault position or some other method? I'm extrapolating from telecom experience**

- *No, we rely on impedance spectroscopy i.e. testing in the frequency domain and not the time domain. TDR works on disconnections but only when the strings are not too long, so we do not use it. We did experiment with it.*

**What is the ball park price of the Z200?**

- *Shoot us a note at [emazys.com](mailto:emazys.com) and we will send a quote.*

**Thank You for your presentation!**

- *You are welcome.*

**Great slides. Thanks very much. It really helps to have a starting point.**

- *That is what we wanted – appreciate it 😊*

**How much strings you can test simultaneous?**

- *Max 1000V and max 15A with the Z200. Normally just 1 string but works fine with 11 strings.*

**It is possible to test 1500V systems?**

- *Not yet – we are working on that ...*

**If you have 2 or more panels with fault it is possible to identify each one?**

- *Tricky question. In the case of GND faults then usually yes, because one of the faults tend to dominate the total Riso, so it can be found. Then fault number 2 is visible afterwards. If they are equal ( $R_{iso1} = R_{iso2}$ ) then it gets difficult, but then again, we have never seen that in the field)*

**Is this tester used primarily for troubleshooting or can it also be part of commissioning? For instance, does it perform the same test as a Megger insulation resistance tester?**

- *We see more and more volume testing done with the Z200 all though it was mostly used for individual troubleshooting missions in the beginning. We found that it discovers a lot of latent issues, so volume testing is a way to go. Riso is*



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*not measured using the standard pulsed voltage "Megger" test. Rather we measure the capacitance in the string and its grounding gear.*

**Does testing using the Z200 require disconnection of the PV string from the inverter?**

*Yes, all PV testers need connection to the system DC terminals. You don't need to test individual panels find faults though, so its very fast.*

**Thank you so much**

*- You are so welcome 😊 It was our pleasure to host this event!*