

GENERATOR ROTOR SHORTED TURN ANALYZER

Efficiently Diagnose and Prevent Generator Rotor Issues

Overview:

The health of generator rotors is critical to smooth operation. The Sumatron Generator Shorted Turn Analyzer targets hard-to-detect shorted turns in rotor windings, which can cause significant vibration and damage due to uneven heating and unbalanced magnetic fields.

How it works:

The instrument simultaneously injects fast rise time low voltage repetitive surges on each collector ring. The reflected wave forms are displayed on a dual trace scope. If there are no anomalies the reflected wave forms will be identical. The wave forms will be different if shorted turns are present.

Why it's essential:

Shorted turns can lead to costly downtime and repairs. Identifying these issues early can prevent larger operational problems. Traditional vibration analyses may not always pinpoint the issue, necessitating a more direct approach.

RSO Testing with the Sumatron Analyzer:

- Our Analyzer leverages Repetitive Surge Oscilloscope (RSO) Testing to directly pinpoint shorted turns in generator rotors.
- It delivers confirming data to validate the health of the rotor windings without the need for immediate costly disassemblies.
- Designed to be used during maintenance checks or rewinds, it ensures your windings are short-free, enhancing the reliability of your generators.



Benefits of the Analyzer:

- Gives a clear picture when combined with multiple tests.
- Can detect anomalies that might be hidden or intermittent.
- Works with the rotor at rest or in motion, ensuring flexibility in maintenance schedules.

Advanced Technology:

- Employs rapid, low-voltage surges to diagnose issues, ensuring minimal risk to your equipment.
- Compatible with both analog and digital scopes, providing versatility and ease of integration.
- Choose our Generator Rotor Shorted Turn Analyzer for a proactive approach to maintaining your generator's health and preventing unexpected failures.

Generator Rotor Shorted Turn Analyzer (RSO) Specifications

- Designed for two & four pole cylindrical rotor generators 10 – 1500 MVA
- Input voltage: 80 – 120% of 110 or 220 VAC depending on model (RSO-1=110 VAC & RSO-2=220 VAC)
- Surge protected
- 50 or 60 Hz
- Output unloaded peak voltage: 8-12 volts
- Output wave forms: Rise time, wave shape, & repetitive frequencies compatible with cylindrical rotor designs based on experience with many machines.
- Quality control: Visual, mechanical, energized for 24 hours followed by acceptance testing to prove functionality over intended range.
- Built in rotor simulator circuit allows user to verify that the instrument is working properly.
- Supported by generator experts who can provide comments on waveforms provided free of charge.
- Instruction manual is included with the instrument, but can also be downloaded free of charge directly from our website at www.sumatron.com.
- Warranty: 18 months
- Oscilloscope compatibility: Compatible with a wide range of commercially available 20 megahertz and higher dual trace analog and digital scopes. The scope should have the capability to invert one channel and sum the wave forms from each channel. Suggest using the Pico Scope (laptop converter) Model 5242D because of its high bit rate which results in smoother and less noisy traces.

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