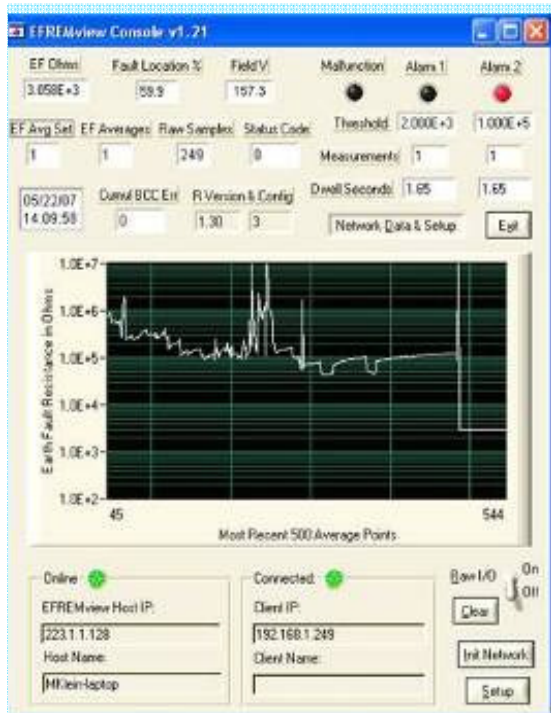




Applications:

- **Rotor Protection through Condition Based Maintenance**
- **Predictive Maintenance for large generators and motors**

Benefits:

- **Continuous On-line monitoring of faults - while rotating or at standstill**
- **Trending - of fault severity resistance**
- **Indication of fault location**
- **Field excitation voltage - also continuously monitored**
- **Alarm relay contact outputs for multiple resistance limits**

Continuous On-Line Monitoring and Resistance Trending for Static Exciter Generator Ground Faults

Ground Fault Detection for Statically Excited Motors/ Generators: (GFD -Static Exciter)

The GFD- Static Exciter provides continuous trending of insulation fault resistance and field voltage through advanced ground fault digital measurement techniques.

Introduction

Accumetrics is proud to introduce the GFD- Static Exciter for statically excited field ground fault detection technology. Building on successful products for ground fault resistance monitoring for brushless designs (see the EFREM data sheet), this system provides continuous on-line monitoring for brushed style excitation generators/ motors.

The GFD -Static Exciter provides:

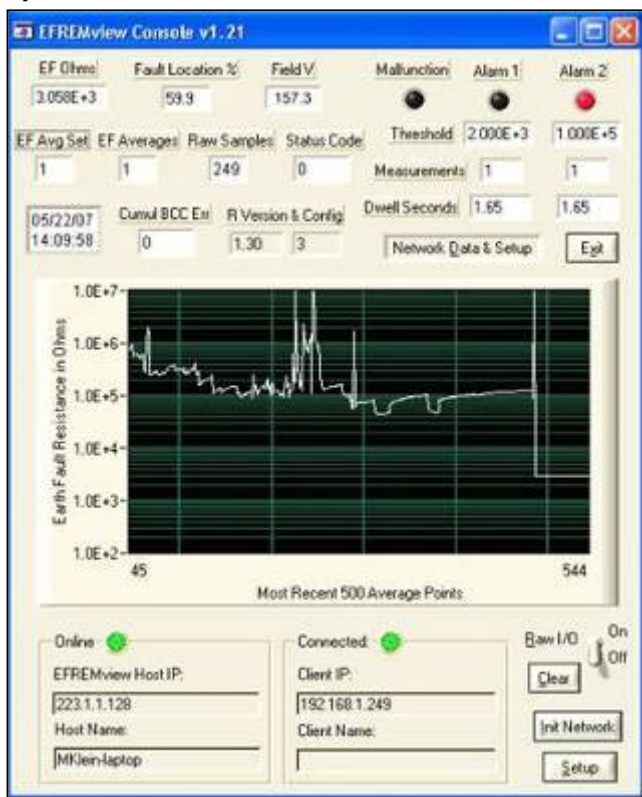
- Quantitative values of fault severity (continuous resistance measurements) – trending of high accuracy data readings!
- Continuous monitoring for faults (always operational, while rotating and when off line)
- Fault location indicator for ease of diagnosis and repair
- Field excitation voltage level monitoring
- Alarm relay contact outputs for multiple resistance limits (for instance, an early warning alarm and a machine trip).

Ground Fault Resistance Measurement Technology

Conventional field ground detectors may detect the occurrence of faults but provide no advance warning or indication of the fault's severity. In fact, the severity at the detection threshold may vary by several orders of magnitude, depending on fault location. Now, by combining 16 bit digital measurement technology with the most sophisticated technique available for generator ground fault measurements, Accumetrics overcomes these limitations with the GFD- STATIC EXCITER. Measurement of actual resistance allows users to monitor trends over time and track the progression of ground faults from their onset. This provides an early warning of impending failure and allows for predictive maintenance of a machine. The severity of ground faults can be used in making operational and maintenance decisions.



Accumetrics' quantitative measurement overcomes the uncertainties of conventional ground fault detectors by measuring actual ground fault resistance and field voltage. In addition, the technique yields a location factor, which indicates where the fault occurs along the length of the field winding.



RS232, Ethernet Output:
--Software for charting/
trending display of fault
resistance and display of rotor
field voltage.
--PC Archive software
optional

System Outputs:
--3 alarm relays, Ethernet,
RS232 outputs, with
optional 4/20mA outputs

Specifications:

System Connections		Field Positive Terminal Field Negative Terminal Rotor Earth
Field Voltage	Measurement Range	0 to 500 VDC. (Contact factory for other ranges)
	Maximum Transient without damage	1000 Volts for 5 seconds
Resistance Measurement	Measurement Range	0 to 80 MΩ
	Accuracy	±250Ω ±0.5% of Reading 0 to 500 KΩ (exclusive of the effects of AC content and noise from the excitation system)
Ground/ Earth Fault Location Factor	Range	0 to 100% representing ratio of potential at fault to total field voltage (0 at negative terminal and 100% at positive terminal)
	Accuracy	±1% for a 10KΩ fault and Field Excitation ≥ 25V
Receiver Alarm Outputs	Ground/ Earth Fault	Two independent alarm resistances, user selectable via computer interface from 500Ω to 1MΩ
	Malfunction	Active upon detection of a malfunction in Monitor operation or loss of receiver power.
	Alarm interfaces	Form C relay: 10A/24VDC, 0.3A/240VDC, 10A/250VAC resistive
Receiver Analog Outputs	Analog outputs	Dual analog output of Fault Location, Log Resistance (4/20mA)
Receiver Digital Interface	Computer interfaces	RS232, Ethernet
	Output Data	Ground/ Earth Fault Resistance, Field Voltage, Location Factor when faults occur, Alarm and error conditions
	User Settings	Ground/ Earth Fault Alarm Resistance Thresholds, Alarm Dwell Time, Network Settings
Environment	Ambient Temperature	0 to 50°C
System Power		85 to 250VAC 50/60Hz, <20W



Contact us: Telemetry@Accumetrix.com
www.Accumetrix.com
Phone: 518-393-2200 Fax: 518-393-3622
409 Front Street, Schenectady NY 12305