Hospitals Rely on I-Gard for Electrical Safety

One of the constant issues facing hospitals is electrical reliability. While significant focus, attention and capital are applied to backup power systems including generators, battery and UPS to protect critical processes and power factor correction equipment, an often overlooked issue is electrical ground faults. According to the authors J.R. Dunki-Jacobs, F.J. Shields and Conrad St. Pierre of Industrial Power Systems Grounding Design Book, 95% of all electrical outages are caused by ground faults.

Many hospitals, whether in their main electrical distribution or for application on their emergency generators, are choosing high-resistance grounding as their method of choice. Originally, high-resistance grounding as a technology was applied to process industries as diverse as food processing, mining and petrochemical. In the last 10 years it has been increasingly applied to commercial installations such as airports, data centers and hospitals to enhance the reliability and uptime of power distribution equipment.

High-resistance grounding allows continuity of service in the event of a ground fault that would cause an outage on a solidly grounded system. With respect to emergency generators, resistance grounding not only ensures reliability but lessens stator damage and repairs due to ground faults.

Standard concerns with high-resistance grounding, such as risk of the loss of the neutral path due to poor connection, broken wires, corrosion, etc., are addressed by applying the I-Gard DSP relay system, the industry’s only SMART HRG relay. With the I-Gard DSP Omnni, the neutral path is continually monitored and an alarm is given should the system deviate from normal conditions. There is also the option to install a second redundant resistor circuit for fail-safe operation. In addition, only the I-Gard DSP Omnni allows continuity of service in the event of a ground fault and also offers additional critical process protection where a second ground fault can be detected and a lower priority feeder can be isolated rather than the whole system being compromised.

Sample installations
- Hospital Sacre Coeur
- Hospital For Sick Children
- Listowel Memorial Hospital
- North Bay Psychiatric Hospital
- North Bay Regional Health Centre
- Peterborough Regional Health Centre
- Scarborough General Hospital
- Sherbourne Health Centre
- St. Michaels Hospital
- Sunnybrook Health Centre
- Tillsonberg District Hospital
- William Osler Health Centre
- York Central Hospital
- San Diego Hospital

Unparalleled protection

Industry
Hospital

Need
Need to reduce costs

Benefit
Reduce cost of repairs, maintenance, less equipment failure, run critical processes even with 2nd ground fault
### DSP-OHMNI

**Phase and feeder indication resulting in quicker fault location**

**Monitors and protects up to 50 feeders on one relay**

**Available 1st fault alarm, 1st fault trip or 1st fault delay trip**

**Integral resistor monitoring module eliminates requirement for separate monitoring relay**

**Unique selective instantaneous feeder trip (sift) on occurrence of 2nd ground fault**

#### FEATURES & BENEFITS

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<th>FEATURES</th>
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<tr>
<td>DIN-rail parts</td>
<td>Compact mounting reduces space requirements.</td>
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<tr>
<td>Compact Feeder Modules DSP-DFM</td>
<td>Large systems up to 50 circuits / DSP-OHMNI can be accommodated.</td>
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<td>Selectable MUTE ON/OFF function</td>
<td>Allows alarm contact to be used for other applications.</td>
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<td>Selectable trip on 1st fault or 2nd fault operation</td>
<td>Provides user the option of maximizing continuity of service (2nd fault trip) or minimizing fire/damage risk (1st fault trip). Both can be used on the same system.</td>
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<td>0-99 min. delay setting on 1st fault trip</td>
<td>Allows time to locate fault and/or orderly shutdown of equipment.</td>
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<td>10-90% Alarm Level setting</td>
<td>User selected sensitivity in 10% increments, allows maximum sensitivity to be used while preventing nuisance alarms.</td>
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<td>Switching Modules DSP-CAS</td>
<td>Provides co-ordination between systems either vertically (between zones) or horizontally (same zone) on multi-zone or main-tie-main systems.</td>
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<td>NGR monitor DSP-DRM</td>
<td>Monitors the status of grounding resistor in one DSP-OHMNI compatible unit.</td>
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<td>Password Protected Setup</td>
<td>Four digit codes selectable by user prevent unauthorized setup changes while still allowing self-test and read-only data.</td>
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<td>Self-Test of Modules</td>
<td>Internal self-test of DSP-DFM, DSP-DSM verifies connections to provide assurance of functionality.</td>
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<td>MODBUS Communications</td>
<td>Allows the operator to remotely monitor which feeder has faulted as well as the leakage currents of all feeders for trending purposes.</td>
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