

case study

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.

unparalleled protection

Industry

Hospital

Focus

Reliability



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

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 Ohmni, 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 Ohmni 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.

DSP-OHMNI

DSP-OHMNI



Phase and feeder indication resulting in quicker fault location

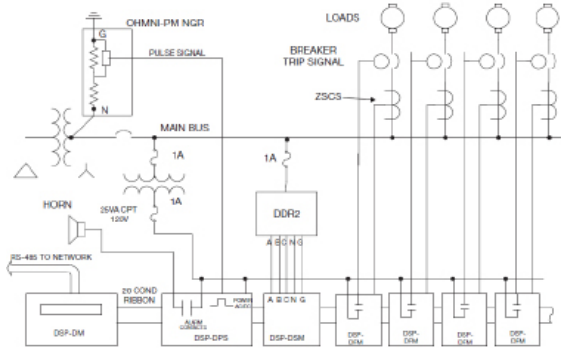
Monitors and protects up to 50 feeders on one relay

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

DSP-OHMNI



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