

Hospitals Rely on I-Gard for Electrical Safety

case study

One of the constant issues facing hospitals is electrical reliability. While significant focus, attention and capital are applied to back up power systems including generators, battery and UPS systems 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, E.J. Shields and Conrad St. Pierre of "Industrial Power Systems Grounding Design Book," 95% of all electrical outages are caused by ground faults.

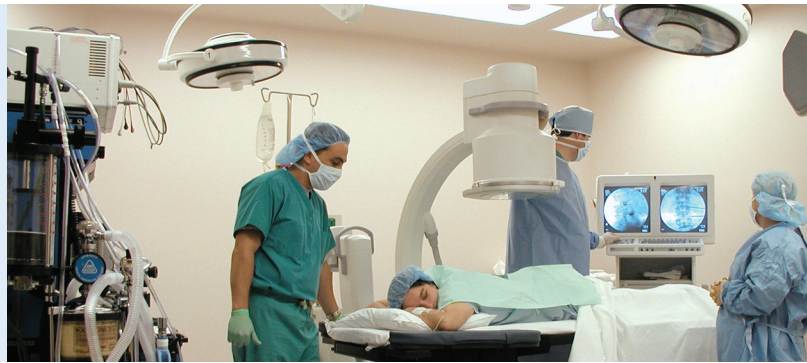
unparalleled protection

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.

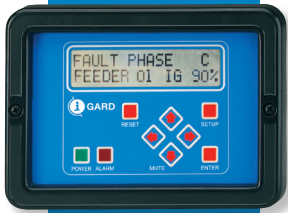
While high-resistance grounding as a technology was originally applied to process industries as diverse as food processing, mining, petrochemical in the last 10 years, it has been increasingly applied to commercial installations such as airports, data centres and hospitals to enhance the reliability and uptime of power distribution equipment.

High-resistance grounding (HRG) 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 not only allows continuity of service in the event of a ground fault, but it 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 DOHMI

Unique selective instantaneous feeder trip (SIFT) on occurrence of second ground fault

Phase and feeder indication resulting in quicker fault location

Monitors and protects up to 50 feeders on one relay

Available first fault alarm, first fault trip or first fault time delay trip

Integral resistor monitoring module eliminates requirement for separate monitoring relay



Technology

Microprocessor Based

Mounting

Small DIN-mountable polycarbonate enclosure

Approvals

CSA, UL, FCC

Control Voltage

100-240V AC 50/60 Hz 25VA or DC 25 W

Feeder Modules

Up to 50 feeders, easily expanded

Feeder Trip Settings (for 2 phase faults)

100 Amps +/- 10 Amps

Feeder Trip Delay

10 * Priority + 200ms

Alarm Trip Setting (for single fault)

50% of NGR let through

NGR Let-through Current Priority

1-16 Amps
16 settings

Pulsing Capability

Built into system; 10 Pulse Frequency settings, Inverted Non-Inverted modes, Interlock with Fault Detect mode

Communication

Modbus up to 2km distance

Self-test

Built in

Indication

LCD Alphanumeric Display and LEDs provide detailed system status. Built-in beeper and optional external horn allows for sound indication.



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