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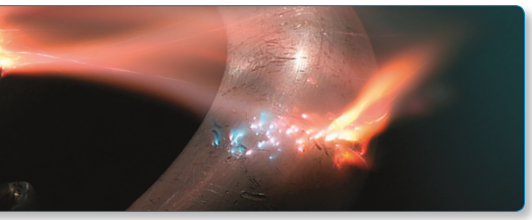
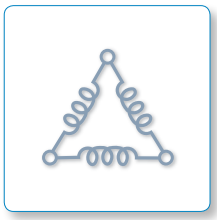
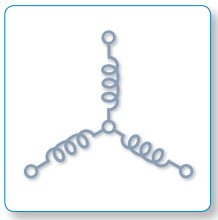
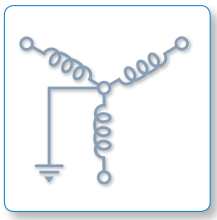
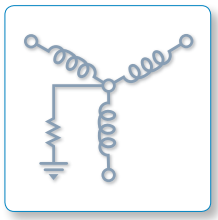
WHY HRG TECHNOLOGY IS SAFER

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high resistance grounding

Every company wants the same things from its electrical system – safety and continuity.

Electrical hazards, such as ground faults and arc flashes, impact industry safety every day by interrupting processes and damaging equipment, thereby posing a safety risk to personnel. There is a solution.

The proven solution, High Resistance Grounding (HRG), ensures:

- A safer, more reliable electrical distribution system
- Process continuity even with a ground fault on the system
- Protection from damage for your electrical equipment
- Improved safety for your personnel

A technology that is recognized by NFPA 70E, CSA ZA462 and the National Electrical Code, High Resistance Grounding reduces the likelihood of the arc flash hazard, protects against ground faults and ensures process continuity.

Insurance companies, such as FM Global, industry organizations such as CSA, IEEE and NFPA recognize the safety benefits of HRG technology.

At I-Gard, we are experts in this technology.

The vast majority of industrial facilities in North America operate with a solidly grounded electrical system, which inherently creates two issues: process interruptions when there is a ground fault, and less frequently, but more seriously, arcing ground faults that can destroy equipment, and severely injure or kill employees.

HRG technology resolves both of these issues, by eliminating the need to interrupt your processes due to a single ground fault, and ensuring reduced risk of the likelihood of an arc flash by 95%.

A substantial number of continuous process facilities in North America operate an ungrounded electrical system, which is also subject to two issues: inability to locate the fault without interrupting the process, and uncontrolled transient over-voltages damaging equipment.

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Once again, HRG technology manages both issues. HRG with optional pulsing empowers personnel to trace and locate the fault without interrupting any process. Furthermore, HRG technology controls and limits over-voltages, thereby reducing the impact on equipment and extending the operational life of motors and drives.

Through continuous innovation, I-Gard added arc detection and mitigation as an option to its most advanced HRG product, which now protects against damaging ground faults and destructive arc flash.

At last, there is a single product that protects against ground faults, that lowers the probability of an arc flash and lowers the magnitude of an arc flash providing unparalleled protection for every company dedicated to employee safety, efficient continuity for their operations, and responsible operating and maintenance costs.

For more information about how I-Gard can help you to ensure process continuity, protect your electrical equipment and safeguard your personnel, visit our website or contact your local

> See next page for the Comparative Performance Rating for Various Conditions Using Different Grounding Methods

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Comparative Performance Rating for Various Conditions Using Different Grounding Methods

	METHOD OF GROUNDING			
CONDITION OR CHARACTERISTIC	**UNGROUNDED**	**SOLID GROUND**	**LOW RESISTANCE**	**HIGH RESISTANCE**
Immunity to Transient Overvoltages	Worst	Good	Good	Best
Ground Fault Protection Can Be Added Easily	Worst	Good	Better	Best
Equipment Protected Against Arc Fault Damage	Worst	Poor	Better	Best
Safety to Personnel	Worst	Better	Good	Best
Service Reliability	Worst	Good	Better	Best
Maintenance Cost	Worst	Good	Better	Best
Continued Production After First Ground Fault	Better	Poor	Poor	Best
Ease of Loading First Ground Fault	Worst	Good	Better	Best
Relay Co-Ordination	Not Possible	Good	Better	Best
73% Increase in Voltage Stress Under Line-To-Ground Fault Conditions	Poor	Best	Good	Poor
Two Voltage Levels on the Same System	Not Possible	Best	Not Possible	Not Possible
Reduction in Frequency of Faults	Worst	Better	Good	Best
First High Ground Fault Current Flows Over Grounding Circuit	Worst	Better	Good	Best