GARD

Unparalleled Protection

GEMINI

Gemini is a unique patented, fail-safe, all-in-one neutral grounding system that combines ground fault protection with a redundant resistor system, in addition to a built-in resistor integrity monitoring relay.

Providing protection against any compromising of the resistor integrity, the patented twin resistance paths in combination with the integrity monitoring relay form the heart of the Gemini system.

Limiting any ground fault to predetermined and safe levels, the parallel resistance circuit protects against the damaging effect of a ground fault. Should the integrity of either resistor path be compromised, the second path continues to provide the necessary protection while an alarm is activated.

- Ground faults cause havoc on plant production processes, shutting down power and equipment and critical loads.
- Ground faults disrupt the flow of products through manufacturing processes and cause data loss in computer centers leading to hours or even days of lost productivity.
- Ground faults pose health and safety risks to personnel, creating hazards such as equipment malfunctions, fire and electric shock.

- Patented fail-safe high-resistance grounding system with twin resistance paths
- Only monitoring relay capable of discriminating between ground faults, resistor failure and open and short circuits
- Eliminates nuisance tripping through adjustable time delay settings 60 milliseconds up
- Self diagnosis through built-in test circuitry

The Gemini system contains a high resistance grounding unit, a ground fault relay and a resistor integrity monitor. It is available with optional pulsing capability for easier fault location.

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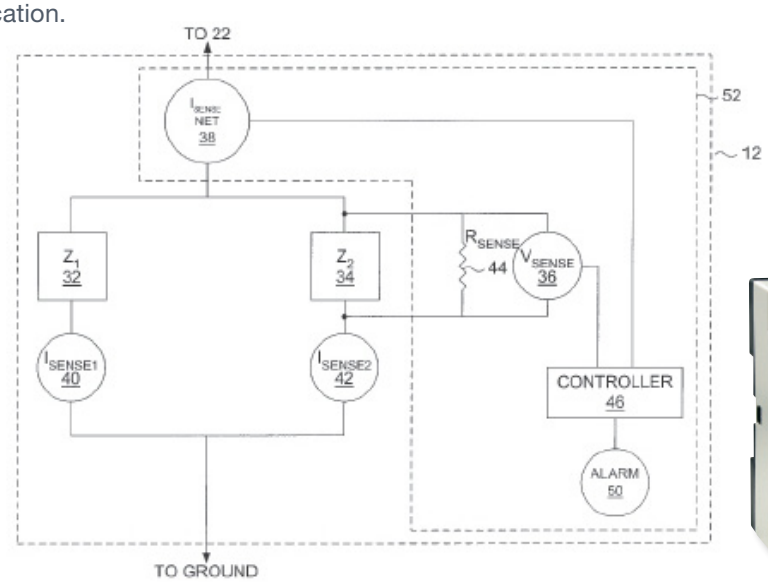

FEATURES	BENEFITS
High Resistance Grounding System	This resistor is connected to the wye point of the transformer or generator supplying the facility. Its function is to limit ground fault currents to non-damaging levels under a single line-to-ground fault condition. The Gemini has a parallel resistance circuit comprised of two identical resistor paths connected from the neutral to the ground. The parallel resistance circuit is sized to limit any ground fault to predetermined levels. In the unlikely event that one resistor path fails, the second resistor path continues to limit the ground fault to half of the predetermined levels and still provides full ground fault protection and an alarm indicating resistor failure.
Ground Fault and Resistor Integrity Relay (Sigma)	In conjunction with a sensing resistor and a series current transformer, the Sigma measures current through the neutral grounding resistor, transformer neutral to ground voltage and NGR resistance for continuity. The Sigma compares the measured values against the field settings of relay and provides relay outputs and lighted signal when an abnormal condition is detected. The Sigma is the only relay with the capability to discriminate between ground faults, resistor failure and open and short circuits. The unit trips in 1.5 seconds when an NGR failure is detected. NGR failure is determined when resistance varies to less than 66% or more than 150% of the selected value.
Automatic Pulsing System (optional)	Once the pulsing feature on the Gemini system is selected and activated, the system will cyclically limit the fault to 100%, 75% and 50% of the available ground fault current. The cyclical pulsing combined with the hand held pulse tracing sensor empowers the user to trace the fault circuit to the point of the fault in even complex distribution systems without de-energizing the load.

High-resistance grounding (HRG) is becoming more prevalent in industrial and commercial electrical power systems because it eliminates un-scheduled downtime due to ground faults, and improves personnel safety by preventing ground faults from escalating into arc-flash incidents. Resistance grounding is highly recommended for generators, to protect them from damage due to excessive ground fault currents.

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