

# case study

## I-Gard Helps a World-Leading Communications Provider Protect its Employees

One of the major customers for Conestogo Electric Inc. is a leading designer and manufacturer of an award-winning mobile device used by millions of people from around the world. With over 20 years of experience, the company also creates innovative solutions for the worldwide mobile communications market. With reliability critical at their assembly and development facilities, they operate both a main electrical distribution system and have multiple generators on hand for emergency use.

# unparalleled protection

**Industry**  
Communications

**Focus**  
Reliability



### About Communications Industry Client

Conestogo Electric Inc.'s client is a leader in designing and manufacturing an award-winning universal mobile device. Its products and services are used by millions of customers around the world daily. Since 1984, the communications industry has grown extensively because of the developments from this innovative leader.

### About I-Gard

I-Gard provides both industrial and commercial customers with the products and application support they need to protect their electrical equipment and the people that use them. Since 1982, I-Gard is committed to electrical safety and reliability.

The traditional approach to protecting each generator from the damaging effects of a ground fault is to ground each generator through a resistor which limits the fault and isolates the damaged generator in a timely manner. However, with multiple generators in use at any one time, circulating third harmonic currents through the connected neutrals can lead to equipment damage.

In addition, a ground fault anywhere in the system will elevate the potential of the neutral — whether the generator is connected to the system or not and this can result in a safety hazard for any personnel working on the generators. In order to ensure process reliability for their client as well as avoiding unnecessary equipment damage and unsafe operating conditions, Conestogo Electric Inc. employed I-Gard to custom design an effective grounding solution.

The answer was to treat each generator as its own feeder circuit and to apply the industry leading Sentinel HRG system from I-Gard to provide individual circuit protection for up to 50 feeders. The Sentinel is the only HRG system that provides critical feeder protection in the event of a second ground fault.

# SENTINEL

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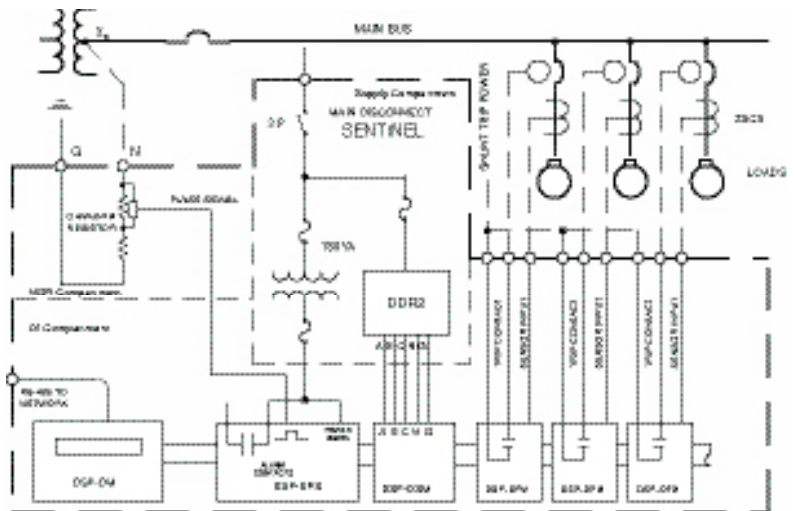
Nema 3R enclosure contains current limiting resistor, ground fault relay and isolation switch

Multi-feeder ground alarm indication with double ground fault protection

Integral resistance pulsing and MODBUS communication for remote monitoring

Inrush detection restraint prevents nuisance tripping on high inrush loads

SENTINEL



## TECHNICAL SPECIFICATIONS

Power Requirements	100-240V, 50/60Hz or DC, 25 V AC
Dielectric	Relay contacts to chassis 1500V RMS for 1 minute alarm level Control terminals to chassis 1500V RMS for 1 minute alarm level EC-60255-5
Trip Level Inhibit	25% of systems ground current
Contact Ratings	DSP-DFM Trip contacts-form C SPDT 10A, 240 V AC resistive DSP-DPS Alarm contacts-form C SPDT 8A, 240 V AC resistive Insulation voltage withstand/lighting impulse withstand in accordance to IEC-60950
Performance	DSP-DFM Pickup accuracy $\pm 10\%$ of system let-through current Trip Level Accuracy $\pm 10A$ DSP-DSM Alarm Level Accuracy $\pm 10\%$ of IG
Temperature Range	Operating temperature $0^{\circ}C - 50^{\circ}C$