GARD

Unparalleled Protection

DSP-OHMNI

The new DSP-OHMNI provides total system protection from ground faults and arc flash events.

The DSP-OHMNI is designed to detect the event of a single ground fault, signal an alarm, identify the faulted feeder and phase and provide pulsing capability so that maintenance personnel can locate the faulted circuit without interrupting the process.

The DSP-OHMNI provides an indication on faulted phase and feeder which speeds up the fault location process and ensures that personnel start the search away from the main switchgear, going first to downstream feeders which usually handle lower current levels and this will consequently reduce the risk.

- The DSP-OHMNI system gives the customer the alternative to trip on first fault with a delay up to 99 hours or trip on second fault under a feeder priority system.
- Alarm in the event of a second ground fault, the DSP-OHMNI acts quickly to prevent the loss of two feeders by selectively tripping the lower priority feeder only.
- The DSP-OHMNI now comes with an Arc Detection Module to protect against arc flash hazards and lower incident energy levels to safer values.

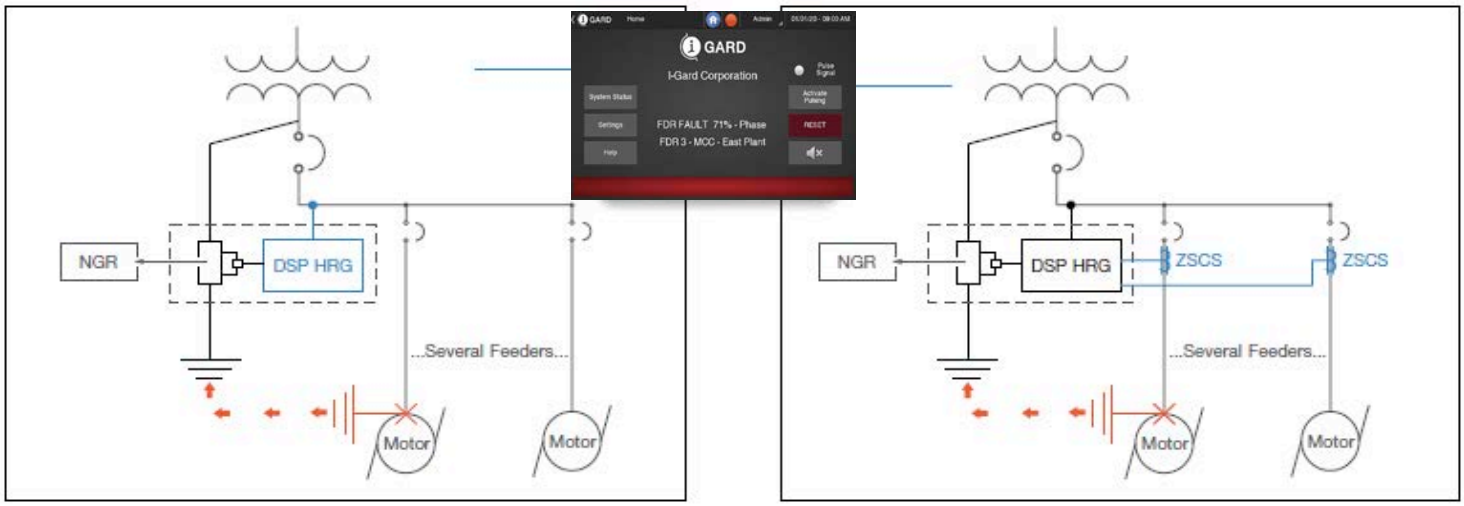
DSP- OHMNI

TECHNICAL SPECIFICATIONS	
Power Requirements	100-240V, 50/60 Hz or DC, 25 VA
Dielectric	Relay contacts to chassis 1500 Vrms for 1 minute alarm level Control terminals to chassis 1500 Vrms for 1 minute alarm level IEC-60255-5
Trip Level Inhibit	25% of systems ground current
Contact Ratings	DSP-DFM: Trip contacts-Form "C" SPDT 10 Amps, 240 VAC resistive DSP-DPS: Alarm Contacts-Form "C" SPDT 8 Amps, 240 VAC resistive IEC-60950
Performance	DSP-DFM: Pickup Accuracy: ±10% of system let-through current DSP-DSM: Alarm Level Accuracy: ± 10% of I_G
Temperature Range	0°C to 50°C

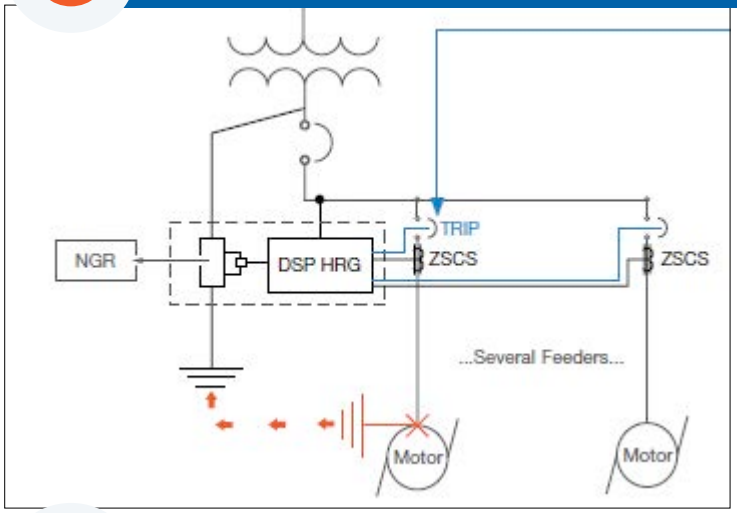
ADDITIONAL SAFETY FEATURES

1 Phase Indication

2 Feeder Identification



3 Faulted Feeder Options



Options for Faulted Feeder:

- Alarm only (no Trip)
- Trip with time delay

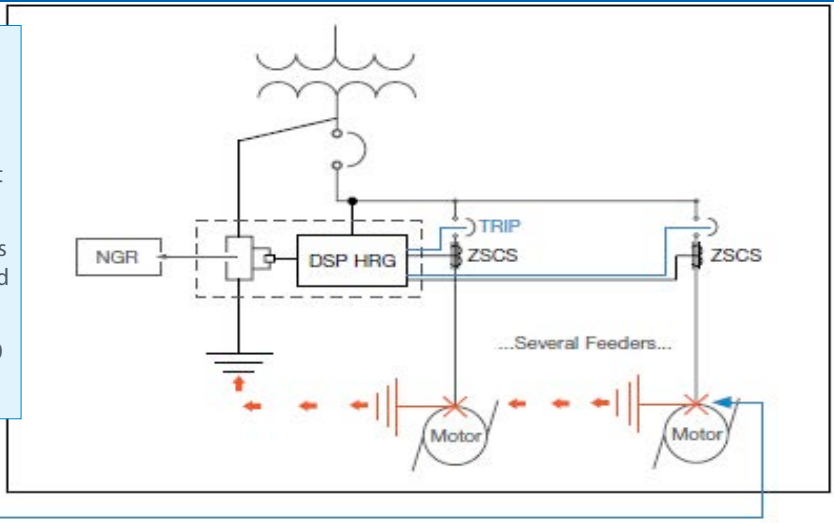
Phase and feeder indication resulting in quicker fault location

Monitors and protects up to 50 feeders on one relay

4 Selective 2nd Ground Fault Protection

2nd Ground Fault:

- Prioritize feeders
- Trips least important, maintaining operation on most crucial line
- Unique Selective Instantaneous Feeder Trip (SIFT) on 2nd ground fault
- Monitors and protects Up to 50 feeders

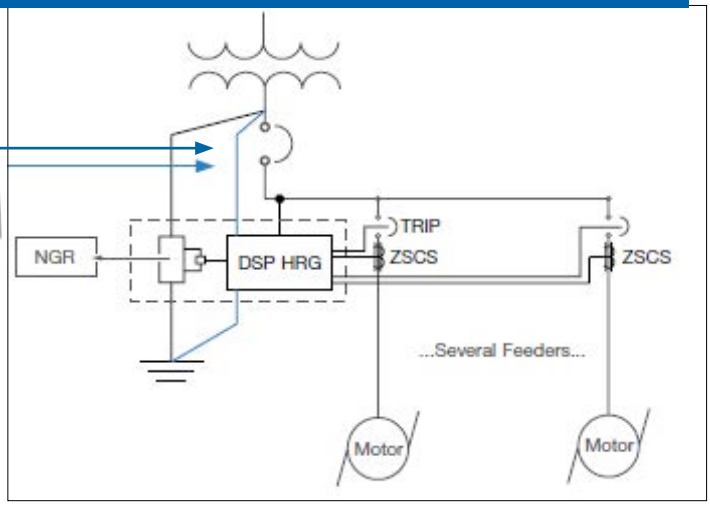


5 Open/Short Protection

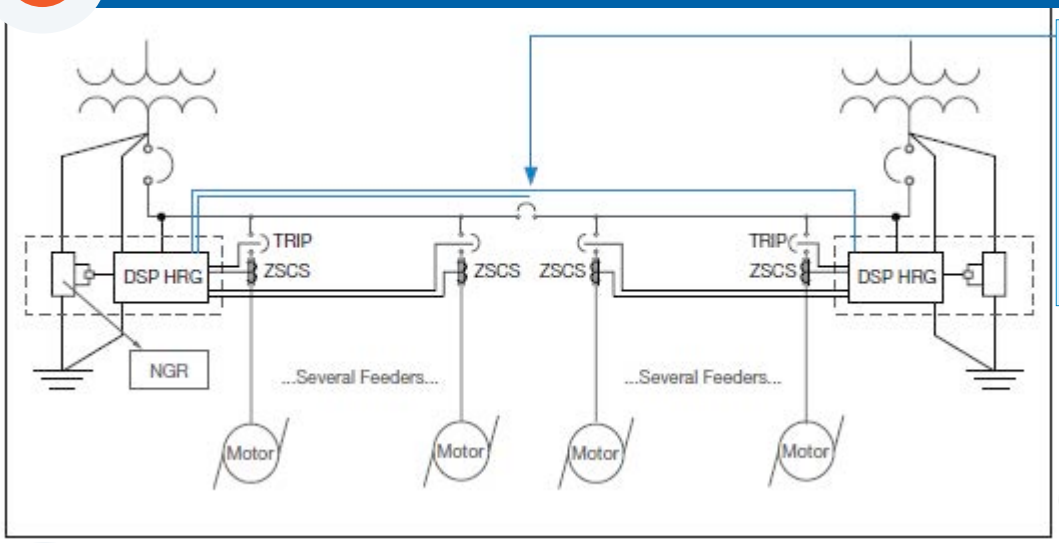
System Ground Monitor (DSP-DRM3):

- Continually monitors circuit from Neutral to Ground
- Alarms if OPEN circuit
- Alarms if SHORT circuit
- Complies with CEC 2018

DSP-DRM3



6 Main-Tie-Main Applications



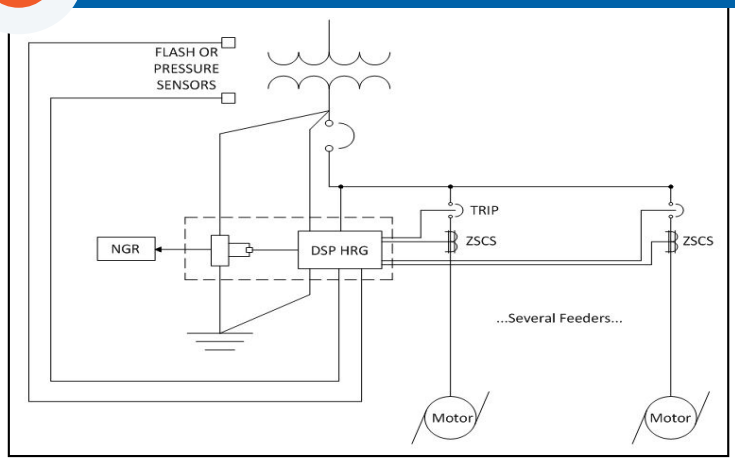
Cable Adapter DSP-CA(S):

- Controlled by tie breaker contact
- Allows coordination of two systems either separately (Tie Open) or combined (Tie closed)

DSP-CA

DSP-CAS

7 Arc Detection Module



DSP-ADM:

- Light sensing transducers alert the system Detection Module about electric arcs
- DSP-ADM quickly attaches to any DSP HRG system
- Continuously monitors 21 possible fault sources
- First line of defence in the arc detection feature of the DSP system

8 Touchscreen Display Module DSP-TDM

Touchscreen Display Module

(DSP-TDM):

- Pulsing activation for Ground Fault Location via display
- Feeder identification (naming)
- Event fault trend analysis
- Compatibility with Arc Detection Module (DSP-ADM)
- Ethernet and serial communication available
- On-board troubleshooting guides

Home Screen

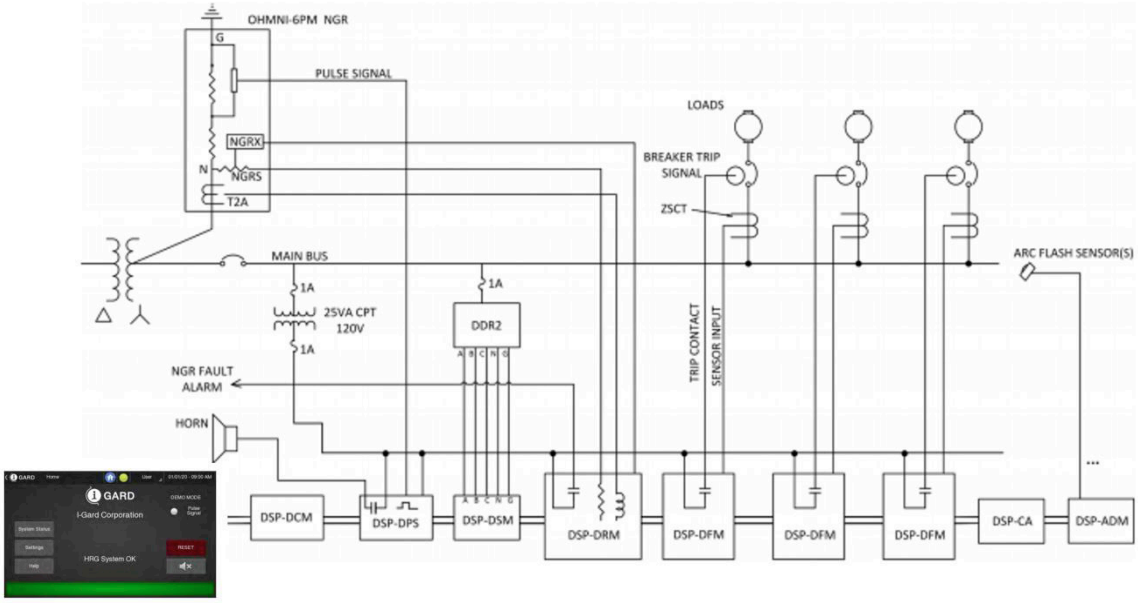
System Status Screen

TECHNICAL SPECIFICATIONS

Screen Size	7” Touchscreen
Touchscreen Technology	10-point multi-touch touchscreen
Resolution	800 x 480 RGB LCD Display, 24-bit color
Processor	Broadcom BCM2837B0, quad-core A53 (ARMv8) 64-bit, 1.4GHz
Memory	1GB LPDDR2 SDRAM Expandable non-volatile memory – 32GB
Connectivity	Gigabit Ethernet and 4x USB
Communication	MODBUS TCP, MODBUS RTU
Compatibility	DSP system
Vertical Viewing Angle	130°
Horizontal Viewing Angle	140°

DSP-OHMNI

Figure 1: Wiring Diagram with ADM



Integral resistor monitoring module eliminates requirement for separate monitoring relay.

Unique Selective Instantaneous Feeder Trip (SIFT) on occurrence of 2nd Ground Fault.

Available 1st Fault alarm, 1st Fault trip or 1st Fault Time Delay Trip.

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.
Arc Detection Module (DSP-ADM)	Optical sensing Arc Detection Module . The DSP-ADM is used to provide protection against arc flash hazards in lowering the incident energy level to safer values.
Touchscreen Display (DSP-TDM)	Provides a simple yet intuitive interface that creates a seamless user-experience by guiding users through its advanced features. Direct access to set-up and controls.
MODBUS Communications	Allows the operator to remotely monitor which feeder has faulted as well as the leakage currents of all feeders for trending purposes.
Selectable MUTE ON/OFF Function	Allows alarm contact to be used for other applications.
Selectable Trip on 1st Fault or 2nd Fault Operation	Provides user the option of maximizing continuity of service (2nd fault trip) or minimizing fire/damage risk (1st fault trip). Both can be used on the same system.
0-99 hours Delay Setting on 1st 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 coordination between systems either vertically (between zones) or horizontally (same zone) on multi-zone or main-tie-main systems.
NGR Monitor (DSP-DRM3)	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.

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