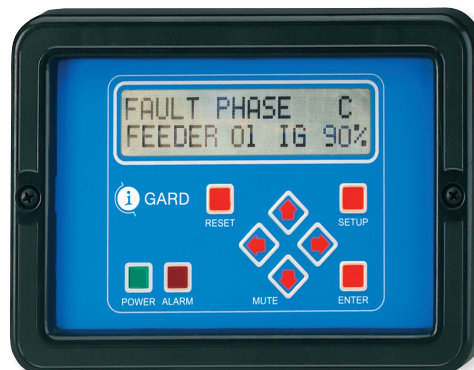


## DSP-ADM

The new DSP-ADM provides total system protection from ground faults and arc flash. As a base model it is designed to detect the event of a single ground fault, signal an alarm, and provide pulsing capability so that maintenance personnel can locate the faulted circuit without interrupting the process. Maintenance can be immediately alerted to the problem and an operator dispatched to located the fault to isolate it promptly.

The DSP SYSTEM can assist in locating the fault with a pulsing fault location circuit. In the event of a second ground fault, the DSP acts quickly to prevent loss of two feeders by selectively tripping the lower priority feeder only.



- 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.

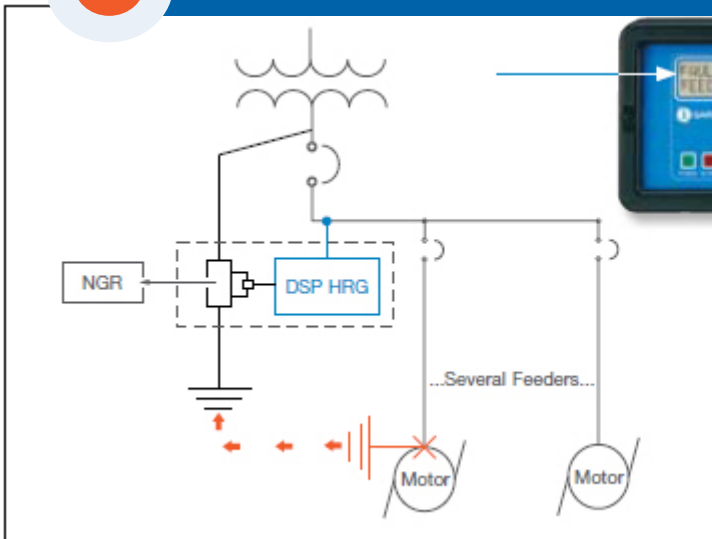
### TECHNICAL SPECIFICATIONS

Power Requirements	100-240V, 50/60 Hz or DC, 25 VA
Dielectric	Relay contacts to chassis 1500 V rms for 1 minute alarm level Control terminals to chassis 1500 V rms 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 Amp., 240 V AC resistive DSP-DPS: Alarm Contacts- Form "C" SPDT 8 Amp., 240 V AC resistive IEC-60950
Performance	DSP-DFM: Pickup Accuracy: $\pm 10\%$ of system let-through current DSP-DSM: Alarm Level Accuracy: $\pm 10\%$ of $I_G$
Temperature Range	0°C to 50°C

# ADDITIONAL SAFETY FEATURES

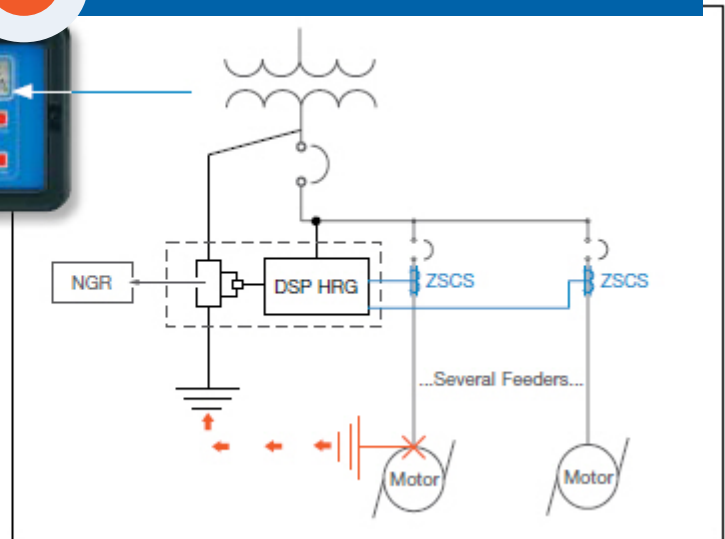
1

## Phase Indication



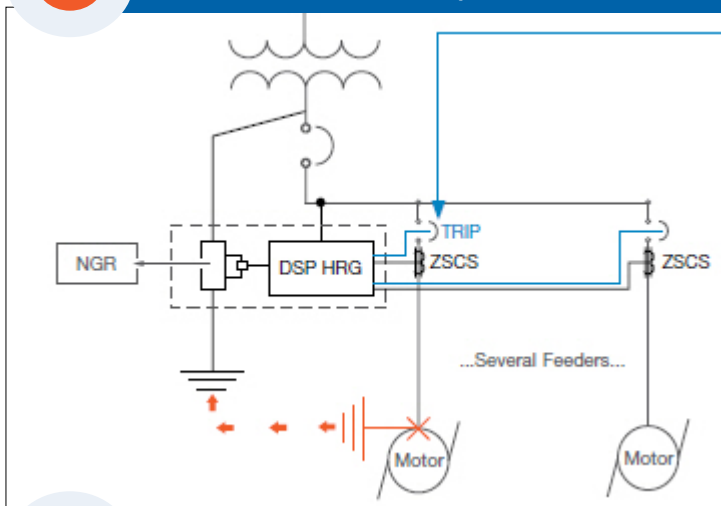
2

## Feeder Identification



3

## Faulted Feeder Options



### Options for Faulted Feeder:

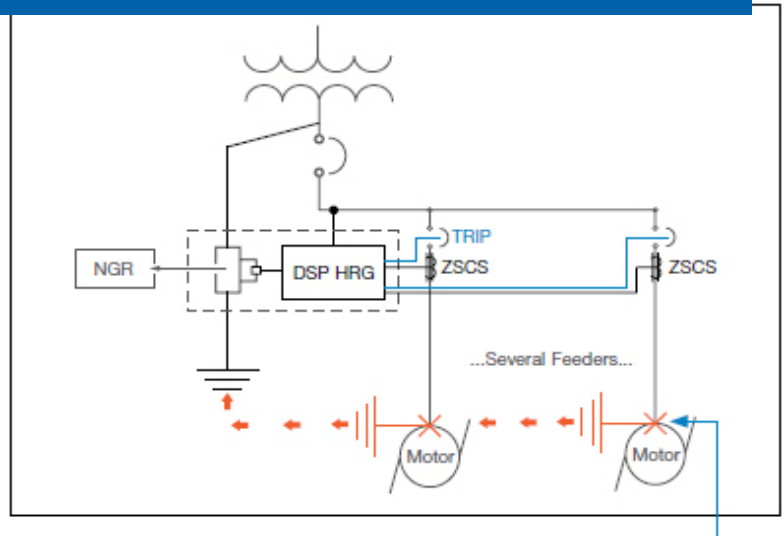
- Alarm only ( no Trip)
- Trip with time delay

4

## Selective 2<sup>nd</sup> Ground Fault Protection

### 2<sup>nd</sup> Ground Fault:

- Prioritize feeders
- Trips least important, maintaining operation on most crucial line
- Up to 50 feeders



5

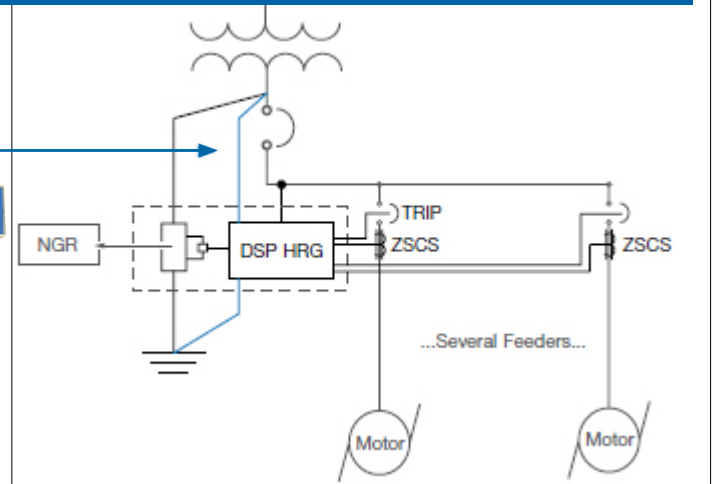
## Open/Short Protection

### System Ground Monitor:

- Continually monitors circuit from Neutral to Ground
- Alarms if OPEN circuit
- Alarms if SHORT circuit
- Complies with M421

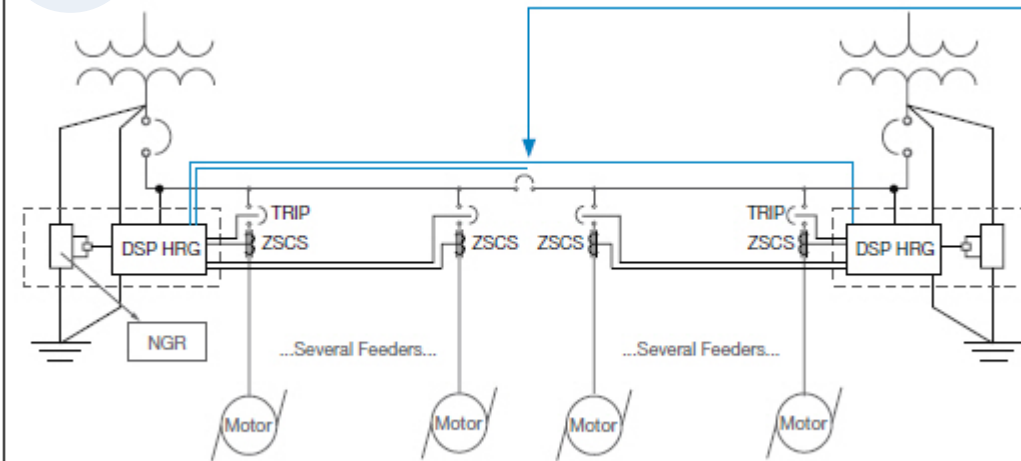


DSP-DRM



6

## Main-Tie-Main Applications



### Cable Adapter CA(S):

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



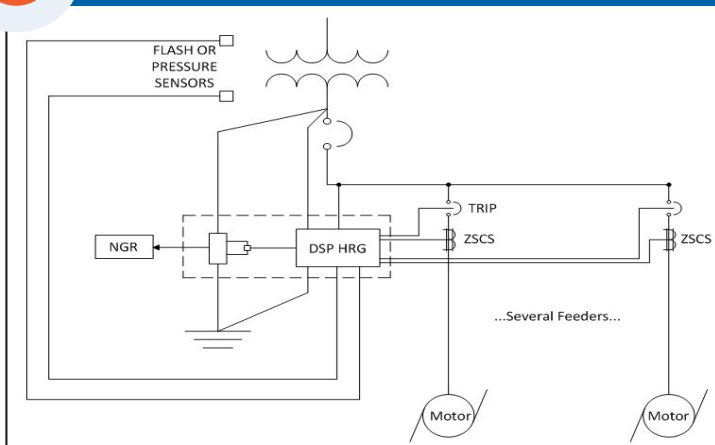
DSP-CA



DSP-CAS

7

## Arc Detection Module

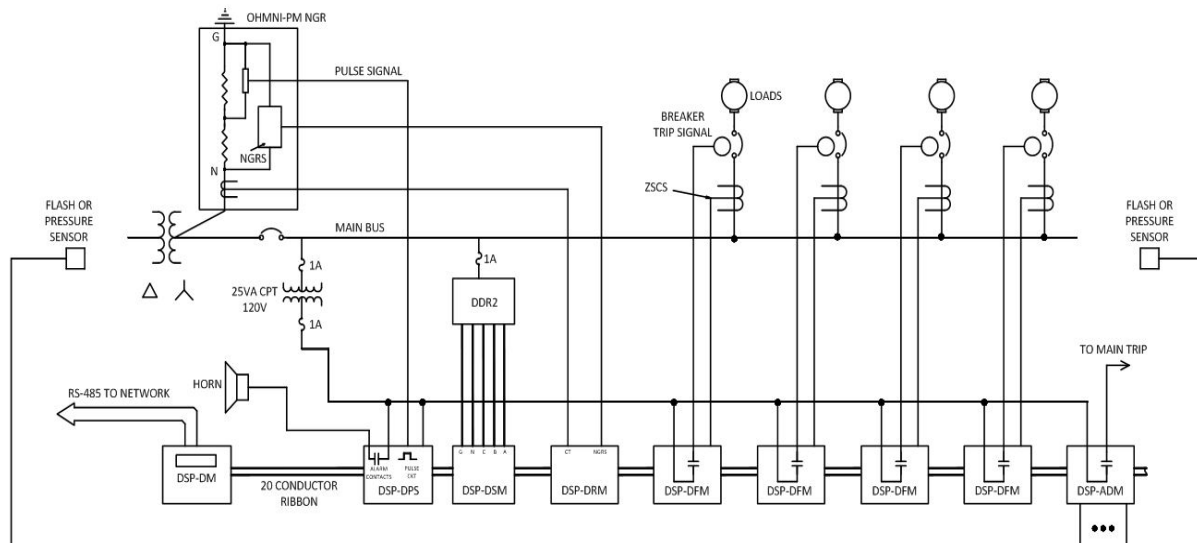


### ADM:

- Device uses air pressure and light sensing transducers to alert the system DM to electric arcs
- DSP-ADM is hot-swappable with DSP-HRG systems
- Continuously monitors 21 possible fault sources
- First line of defence in the arc detection feature of the DSP system



Figure 1: Wiring Diagram with ADM



Phase and feeder indication resulting in quicker fault location  
Monitors and protects up to 50 feeders on one relay  
Available 1<sup>st</sup> fault alarm, 1<sup>st</sup> fault trip or 1<sup>st</sup> fault delay trip

Integral resistor monitoring module eliminates requirement for separate monitoring relay  
Unique selective instantaneous feeder trip (sift) on occurrence of 2<sup>nd</sup> ground fault

## FEATURES

DIN-rail parts	Compact mounting reduces space requirements.
Compact Feeder Modules DSP-DFM	Large systems up to 50 circuits / DSP-OHMNI with DSP-ADM can be accommodated.
Selectable MUTE ON/OFF Function	Allows alarm contact to be used for other applications.
Selectable Trip on 1 <sup>st</sup> Fault or 2 <sup>nd</sup> Fault Operation	Provides user the option of maximizing continuity of service (2 <sup>nd</sup> fault trip) or minimizing fire/damage risk (1 <sup>st</sup> fault trip). Both can be used on the same system.
0-99min Delay Setting on 1 <sup>st</sup> 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 co-ordination between systems either vertically (between zones) or horizontally (same zone) on multi-zone or main-tie-main systems.
NGR Monitor DSP-DRM	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.
MODBUS Communications	Allows the operator to remotely monitor which feeder has faulted as well as the leakage currents of all feeders for trending purposes.