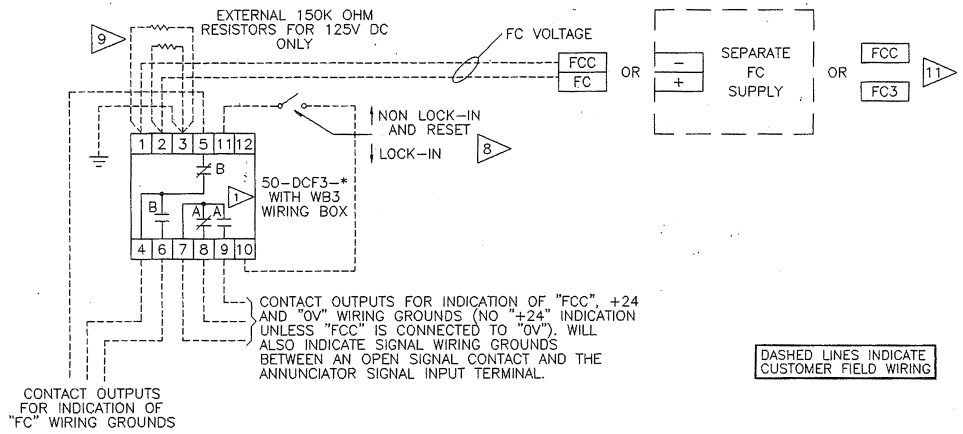
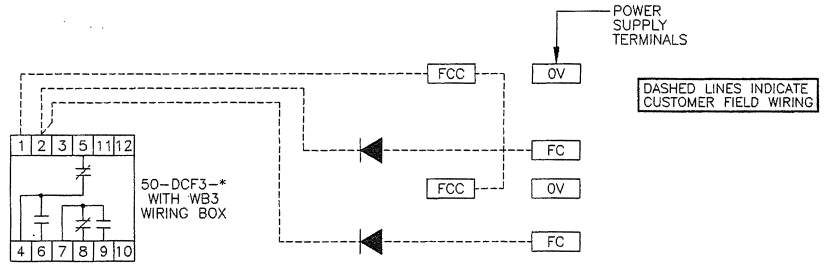
90 SERIES GROUND DETECTION FOR 12, 24, 48 OR 125 SIGNAL CONTACT APPLIATIONS MODEL 50-DCF3-* GROUND MONITOR, PLUGGED INTO MODEL WB-3 WIRE BOX.



50-DCF3-* WITH 2 OR MORE POWER SUPPLIES WITHOUT BUMPLESS TRANSFER.



OPERATING INSTRUCTIONS

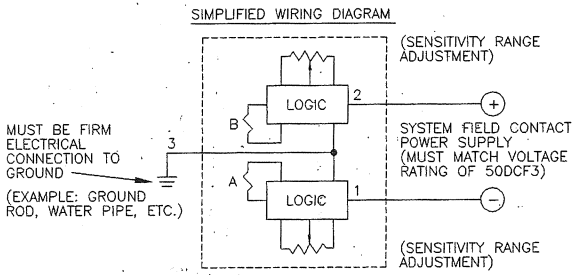
1. SHOULD A GROUND FAULT OCCUR, THE APPROPRIATE RELAY WILL ENERGIZE & VIA. ITS CONNTACTS, PROVIDE THE ALARM SIGNAL.

   NOTE: THE 50-DCF3 WILL RESET AUTOMATICALLY WHEN THE GROUND IS REMOVED, UNLESS THE LOCK-IN/ NON LOCK-IN SWITCH IS IN THE LOCK-IN POSITION, THEN THE GROUND FAULT DETECTOR WILL HAVE TO BE MANUALLY RESET.

2. IN CASE OF A GROUND INDICATION, THE FIELD CONTACT OR POWER WIRING SHOULD BE REMOVED ONE POINT AT A TIME UNTIL THE FAULT IS LOCATED.

   NOTE: MULTIPLE FAULTS MAY OCCUR. REPLACE THE WIRING UNTIL ALL FAULTS ARE LOCATED, CORRECTED AND THE SYSTEM RESUMES NORMAL OPERATION.

SIMPLIFIED WIRING DIAGRAM



NOTES:

1. IN NORMAL (NON-GROUNDED) CONDITION, THE 50-DCF3-* RELAYS ARE DE-ENERGIZED. (CONTACTS AS SHOWN)
2. FOR ADDITIONAL WIRING DETAILS, REFER TO APPLICABLE SYSTEM WIRING DIAGRAMS.
3. CONTACT RATING: 0.5A AT 125VAC 2A AT 30VDC.
4. GROUND MONITOR SYSTEM MAY NOT BE APPLICABLE IN CERTAIN CASES INVOLVING CONNECTION OF PERIPHERAL EQUIPMENT TO THE FIELD CONTACTS.
5. WHEN ISOLATED FC'S ARE USED, CONNECT 50-DCF3-* TO FC SOURCE, TERM. #1 TO (-), TERM. #2 TO (+), TERM. #3 TO GROUND.
6. SENSITIVITY IS FACTORY SET AT 47K OHM (470K OHM FOR 50-DCF3-125) AND MAY BE READJUSTED BY POTENTIOMETERS LOCATED ON TOP OF THE PLUG-IN.
7. PLUS AND MINUS GROUND FAULT TRIP POINTS ARE INDEPENDENTLY ADJUSTABLE.
8. IF LOCK-IN IS NOT REQUIRED, THE EXTERNAL SWITCH MAY BE OMITTED.
9.

MODEL VOLTAGE	DETECTION RANGE	LABEL MARKING
12V DC	25K ohm TO 500K ohm	WB-3
24V DC	25K ohm TO 500K ohm	WB-3
48V DC	25K ohm TO 500K ohm	WB-3
125V DC	250K ohm TO 1.5M ohm	WB-3
125V DC	40K ohm TO 260K ohm WITH EXTERNAL 150K ohm RESISTORS	WB-3/150K/150K

10.

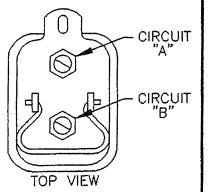
OPERATING DATA: (X=ENERGIZED) 50-DCF3* ALL VOLTAGES			
FAULT RESISTANCE	FAULT LOCATION GND TO	RELAY "A"	RELAY "B"
> "SET" VALUE	NONE	–	–
0 ohms TO "SET" VALUE	PLUS (TERM 2)	–	X
0 ohms TO "SET" VALUE	MINUS (TERM 1)	X	–

11. FC3 USED WHEN GND MONITOR IS WIRED TO SYSTEN USING A 90BT* BUMPLESS TRANSFER.

PROCEDURE FOR SETTING (+) AND (-) GROUND DETECTION POINTS

SET CIRCUIT "A" AND "B" POTENTIOMETERS FULLY COUNTER CLOCKWISE.

1. CONNECT DESIRED RESISTANCE VALUE BETWEEN (+) OF FC VOLTAGE AND GROUND (⏚).
2. ADJUST CIRCUIT "B" POTENTIOMETER CLOCKWISE UNTIL RELAY CIRCUIT "B" CONTACTS CHANGE STATE (TERMINALS 4, 5 AND 6).
3. REMOVE RESISTANCE AND RELAY CONTACTS 4, 5 AND 6 SHOULD RETURN TO NORMAL STATE.
4. CONNECT DESIRED RESISTANCE VALUE BETWEEN (-) OF FC VOLTAGE AND GROUND (⏚).
5. ADJUST CIRCUIT "A" POTENTIOMETER CLOCKWISE UNTIL RELAY CIRCUIT "A" CONTACTS CHANGE STATE (TERMINALS 7, 8 AND 9).
6. REMOVE RESISTANCE AND RELAY CONTACTS 7, 8 AND 9 SHOULD RETURN TO NORMAL STATE.
7. CIRCUIT "A" AND "B" WILL NOW TRIP AT THE DESIRED FAULT RESISTANCE.



REV	ECN NO.	BY	APPD	DATE	MATERIAL: **********	
00	9185-15	JJ	JWK	01/24/84	FINISH: **********	
01	9298	JJ	PG	02/04/86	USED ON/REF. DWG	DESCRIPTION
02	9967	LJ	DB	11/17/88	50-DCF3-*	DRAWING LIST
03	10600	SK	JE	12/26/90	57100-DCF3-1	DIMENSIONAL OUTLINE
04	10680	SK	PG	04/16/91		
05	11872	SK	MAZ	6/15/01		

TOL. UNLESS SPECIFIED
INCHES .X = .015 .XX = .010 .XXX = .005
MILLIMETERS X.0 = 1.0 0.X = 0.4 0.XX = 0.1
ANGLES ±0°30'
SCALE NONE | INCH (MM)

A 90450-DCF3-1-05-01.dwg © 1985

AMETEK

PANALARM 1725 WESTERN DRIVE, WEST CHICAGO, IL., 60185, U.S.A. PHONE: 1-630-231-5900 FAX: 1-630-231-4502

DWN. BY WW / SK
APPD/DATE JWK 01/24/84
THIRD ANGLE PROJECTION

WIRING DIAGRAM
MODEL 50-DCF3 GROUND FAULT MONITOR APPLICATION WITH 90 SERIES ANNUNCIATOR

SHEET 1 OF 1 | DWG. NO. 90450-DCF3-1 | -C-