PROTIME®

N22-EFR/d

(Earth Fault relay for DC Systems)

Special Features

- Only of its kind DC current sensing type DC Earth Leakage Relay.
- NO ISOLATION from Mains Supply required.
- Ideal for separate Feeder Protections in DCDB.
- Suitable for DC System of any voltages from 12V to 1000V DC
- Separate LED Indications for +ve or -Ve Fault* with Common 1 C/O relay contact.
- In-build TEST FUNCTION & AUTO/MANUAL RESET Configuration.
- Compact design suitable for standard DIN mounting channel mounting.

INTRODUCTION

The PROTIME's DC EFR is an ideal solution for DC earth leakage / Fault protection for each feeders in DC distribution system. As it works on current sensing principal, also suitable for high voltage DC systems up to 1000VDC.

Technical Specification

Auxiliary supply: -	90-270V AC / DC
Output contact: -	1C/O (potential free)*
Switching duty: -	6A resistive at 240V AC or 24V DC
Electrical life: -	10^5 operation at switching duty
System voltage: -	12V DC, 24V DC, 48V DC, 110V DC, 220V, 400V, 750V DC
Current Sensor Capacity : -	A:25A, B:50A, C:100A, D: 200A, E: 300A, F:500A
Range: -	1-10% of rated Current Sensor (Settable), *for e.g. For Sensor A=250mA -2.5A*
Tme delay: -	1-10 sec / 0.1 - 1 Sec. (Settable)
Indications: -	HEALTHY, +ve FAULT, -Ve Fault , RLY
Mounting: -	DIN channel mounting
Dimension: -	RELAY = 22.5mm(W) X 80mm(H) X 110mm(D). Sensor = Varies with Current ratings, Refer Sensor Datasheet
Approx. weight: -	100gms (TOTAL)
Enclosure: -	ABS-N22
Operating Temp & RH: -	-10^0C, $+55^0$C up to 80%
Storage Temp & RH: -	-25^0C, $+70^0$C up to 80%

** 2C/O (potential free) can be offered with ERM (External relay Module)*

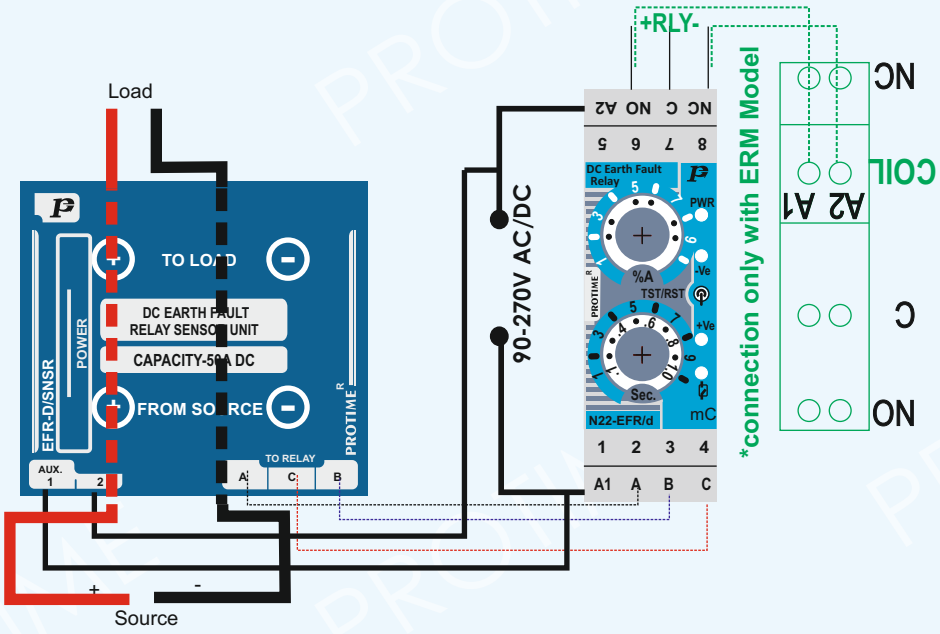
Operation:

The Solution comprises of two modules:

a) Current sensing module(50A-300A) &
b) DC Earth Fault Relay.

The N22-EFR/d senses total current passing from the DC system on Positive or Negative BUS & calculate leakage current passing through earth if any. The relay operates when the leakage current goes above the range selected on dial provided on front. It has Fault level setting from 1% to 10% of rated current sensor, for e.g. for Sensor A (25A) it shall be=250mA-2.5A with resolution in 10 steps. It also has time delay setting from 1 to 10 sec for delay in relay operation after fault occurs. The relay has one change over set of contacts. To get the desired result relay should be connected as per connection details given as below-

Connection Details:



How To Order DC EFR?

Ordering Pattern-

N22-EFR/d - 3 - A - A - 10S - 1 C/O

____=1C/O
ERM=2 C/O

Series

N22-EFR/d:
DC Earth
Fault Relay

Aux. Supply

1 20-32V DC
2 42-90V DC
3 90-270V AC/DC
4 100-425V DC
S Specified

***system Current(DC)**

A-25A
B-50A
C-100A
D-200A
E-300A
F-500A
S-Specified

Time Range
10S: 0.1-1Sec / 1-10 Sec.

Range
*A=1-10%

* Check Sensor dimensions in Sensor Data Sheet

Note:- Design & specification may change due to our continuous developmental efforts