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Setting Procedure for Microprocessor-Based Restricted Earth Fault Relay: MPREFR 1A/5A

- Connect auxiliary supply for the Relay [50-550V AC/DC] to Aux. terminals.
- Display Shows 

- **Setting Procedure**:
  1) To enter the setting mode Press the MODE/ SET key for 3sec.
  Display changes to 

  Use 

Key or 

Key to select 5A/1A CT and Press 

Key to Save the value.
  2) Display changes to 

Available trip current steps are 5% to 80% in steps of 5%

  Select the required current value using 

or 

to select the value and Press 

Key Display changes to 

Select – **Y or N**, using 

and 

and Press 

Key, Display Shows 

- **Fault records**: Press 

Fault records will be displayed. 

- **Relay TEST/TRIP**: Press 

the Key for 3 seconds. Relay enters test mode

  Output relay tips, Green LED toggles, and RED LED toggles then Relay RESETS.

Calculation of Stabilizing Resistance for REF (Illustration Purpose Only)

Transformer Data:

- **250MVA Transformer**
- **Expected Fault Current= 4750A**
- **CT used- 1000/5A, Class PX, CT Resistance <5Ω, Knee pt. Voltage 300V(approx.)**

REF- Relay Data:

- **Make: Prok Dvs REF**
- **Relay Rating: 1A/5A (Field Configurable)**
- **Relay Burden: 0.2VA (approx.)**
- **Plug Setting Range: (5-80) % In**

CT data:

Ratio: 1000/5A
Knee Pont Voltage: 250V
CT- resistance: 250V

Calculations:

The voltage across the Relay: I_F (Rct +R lead resistance)

I_F – fault Current -23.75A (secondary), Rct= 5Ω, Lead resistance – approx. 1.4Ω

Vr = IF (Rct +R lead resistance)

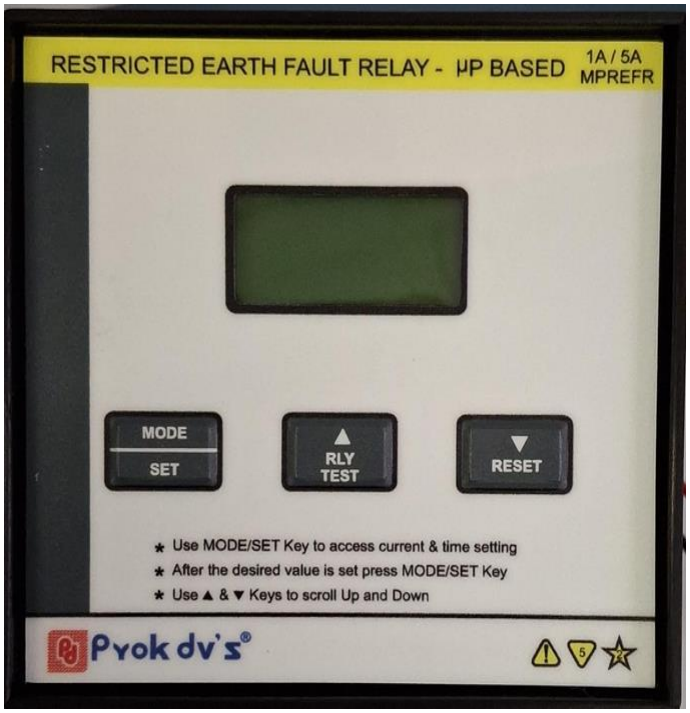
= 23.75(5+1.4) = 152V, Knee point voltage > Vr (conditions satisfied)

Relay resistance Rr = VA/ I^2 = 0.2/ 1^2 = 0.2Ω (if Relay is set to 20% of 5A)

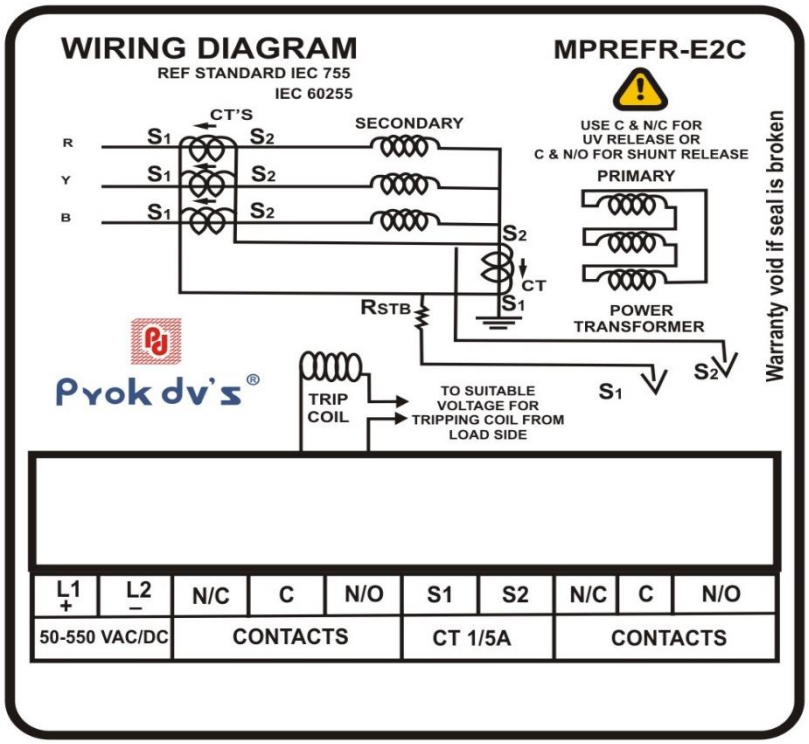
Stabilizing Resistance = Vr/ I (Relay setting) – Rr = (152/1)- 0.2 = 152 Ω

Stabilizing resistance of 152 Ω (approx.) has to be used.

FRONT FASCIA



WIRING DIAGRAM



DIMENSIONAL DETAILS