



VERITEK

EARTH FAULT RELAY

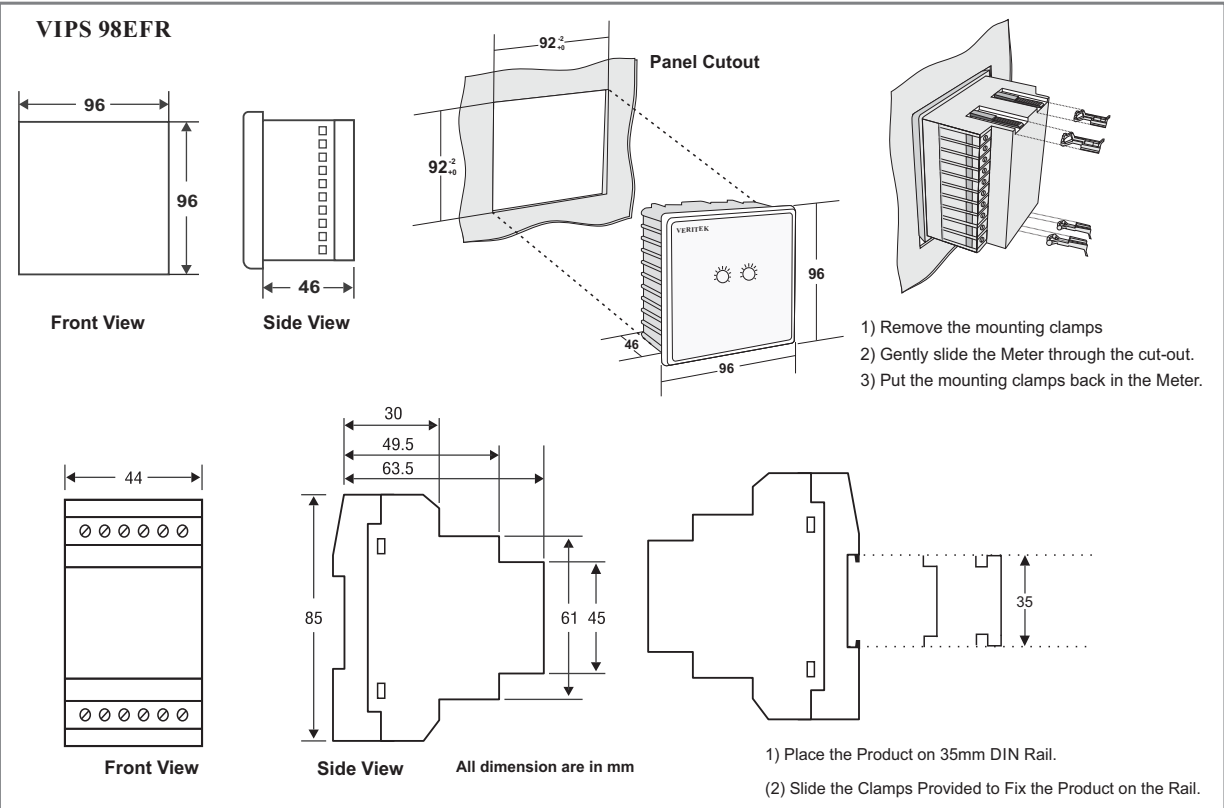


VIPS 98 EFR



VIPS 98 EFR

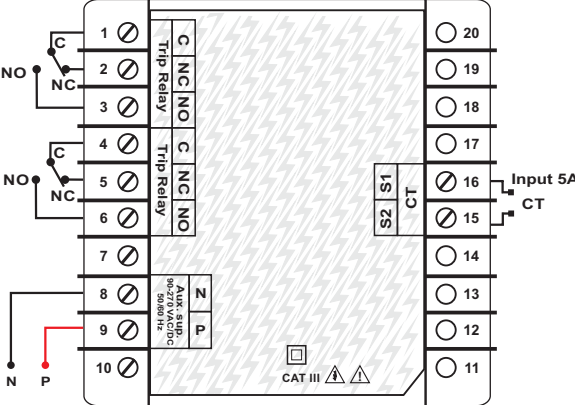
MACHANICAL DIMENSION



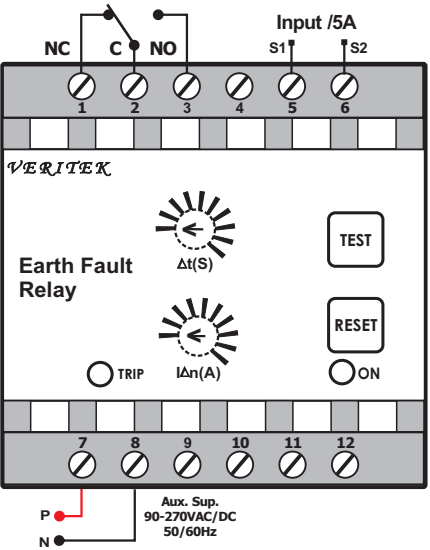
CONNECTION DIAGRAM

Electrical Wiring / Connection Diagram

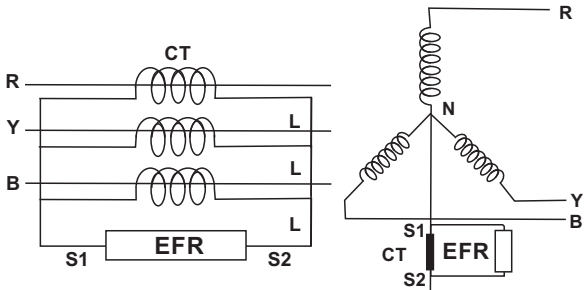
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CURRENT TRANSFORMER CONNECTION DIAGRAM



TEST CERTIFICATE

Type : EARTH FAULT RELAY

Nominal Current In : 500mA to 5A

Accuracy : Class 1

Aux. Supply
90 - 270V AC/DC, 50/60Hz

Range : 500mA to 5A

Accuracy Test :
Tripping Observed Between $\pm 1\%$ of set value
Found OK

Note :
A) For Digital Readouts the error is Computed in Counts.

- Class 1.0 = $\pm 1\%$ of Full Scale ± 1 Count
- Class 0.5 = $\pm 0.5\%$ of Full Scale ± 1 Count

Tested By : Mr. Devendra Chaurasiya

Date :

APPLICATION

Generator Control Panel
Distribution Control Panel
Protection System

USER SETTABLE PARAMETERS

- ✓ Range Set { $I_{\Delta n}(A)$ }
- ✓ Delay Set { $\Delta t(S)$ }

EARTH FAULT RELAYS

Earth Fault relay is used for the continuous surveillance Of the earth current which causes generation of Heat & progressive failure of insulation, when the current value moves outside from the desired zone the relay Energises to give an alarm or trip a circuit.

PRINCIPLE OF OPERATION

The unit employs a Current Transformer to sense the Leakage Current as Show in Diagram. In a healthy system the Vector sum of the currents flowing in the 3 Phases is Zero. But in case of an Earth Fault the vector sum is not Zero & a resultant current begins to flow. This is sensed and converted into an analog Voltage signal which is compared with a preset reference value. In case of 3 Phase 4 Wire system Neutral also has to be passed through the CBCT.

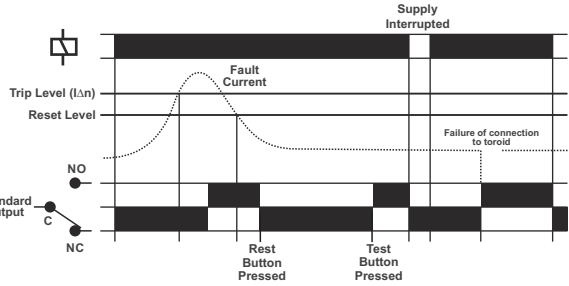
SPECIFICATION

Voltage - Rating : 90 - 270 VAC / DC, 50/60 Hz
Burden : 3VA Max
Nominal Current (In) : 1/5 Amps (Factory set)
Overload : x2 continuously, x10 for 3 sec as per BS6253
Burden : 0.2VA Max
Storage Tempt : -10° to $+70^{\circ}$
Operating Tempt : 0 to $+55^{\circ}$
Frequency : 50Hz - 60Hz
Operating Time (Delay) : 0.1 Sec to 10 sec. (user adjustable)
Setting for Trip Point : (10% to 100%) of $I_{\Delta n}$
Repeatability : Better than 0.5%
Relay Output : Single pole change over (2 C/O on request)
24 VDC 5A resistive
240 VAC 5A
Status : Normally De-energised
Reset : Manual
Dimensions : 96 x 96 x 48 mm (W x H x D)
45 x 90 x 75 mm (W x H x D)
Mounting : Flash Mounting With Side Clamps
Din Rail (35mm)
Panel Cutout : (90^{+1}_{-0}) mm X (90^{+1}_{-0}) mm

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FUNCTIONAL DIAGRAM



**CURRENT TRANSFORMER (CT)
(Rectangular)**



SIZES AVAILABLE

Any other ID / rectangular CBCT

! SAFETY PRECAUTIONS :

All safety related codifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If the equipment is not used in a manner specified by the manufacturer it might impair the protection provided by the equipment.

If there is physical damage to the unit then do not use it.

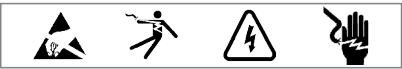
Read complete instruction prior to installation and operation of the unit.

WIRING GUIDELINES:

! Warning

- 1) To Prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.
- 2) Wiring shall be done strictly according to the terminal layout with shortest connection. Confirm that all connection are correct.

! CAUTION :



- 1) To ensure the safe operation of unit, check the wiring and connections.