

## GENERAL SPECIFICATIONS

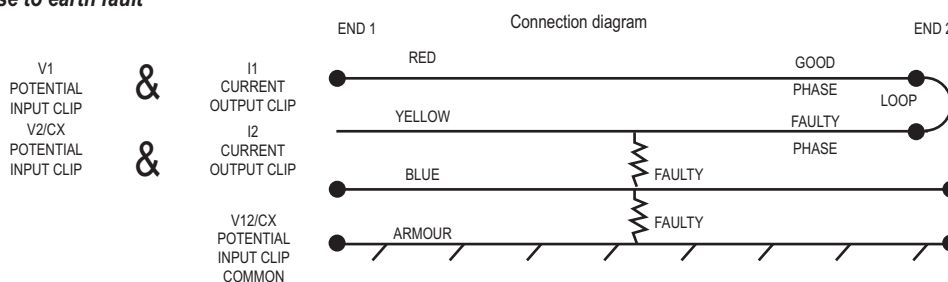
- Introduction** : Model 200A Digital cable Fault Locator is used to locate Short Faults, Earth Faults including High Resistance Faults and open faults in all types of LT & HT armoured cables from 400V to 11KV & 33KV
- Types of Cables** : LT & HT Armoured/Unarmoured cables
- Length** : Minimum 50 mts Maximum 10 kms
- Insulation** : All classes like PVC, PILC, PLCC etc. Including XLPE Cables
- Lay** : Buried, Underground, Aerial and Cable Drum wound from
- Types of Faults** : Short faults, Earth Faults Including High Resistance Faults & Open circuit faults involving one or more conductors. Some combination faults too can be localized
- Limitations** : Fault resistance can be as High as even 10 mega ohms as measured by a 1000V Megger. If the insulation resistance is more than 10 Mega Ohms, fault burning technique has to be adopted prior to localization of fault.
- Operation** : Model 2000A works on Potential Distribution Technique to locate short. Earth & High Resistance Faults. Capacitance Measurement Method is adopted to locate Open Faults.
- In case of Potential Distribution Technique, one healthy phase is looped to the faulty phase at one end of the cable (Similar to Varlay loop operation). D.C. current is made to flow through the loop and the voltage drops (V1 & V2) are substituted in a simple formula to calculate the distance to the point of fault from testing end of the cable.
- In Capacitance Measurement Method, a capacitance Bridge measures the capacitance of the faulty phase (Cx) upto the point of fault and is compared with the capacitance of the healthy phase (C). Cx and C are substituted in a simple formula to calculate the distance to fault from testing end of the cable.



### Typical Example :

An illustration of the method of fault location in case of two phase to earth fault and open circuit faults using Model-2000A is given below. Similar method with minor alterations in cable connection has to be adopted for locating other types of faults.

#### Example / Two phase to earth fault



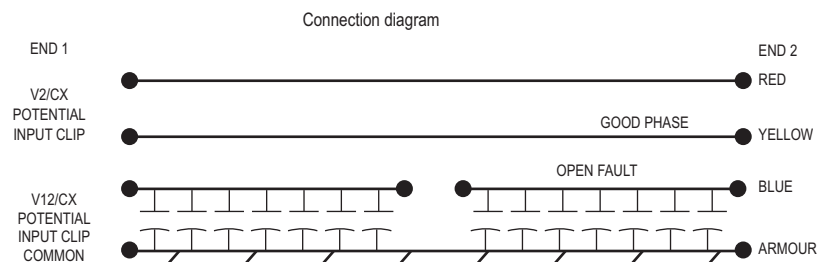
\*Technical Specifications & Appearance are subject to change without prior notice

### Procedure in Brief :

- Connect phases of the faulty cable to the equipment as per the connection diagram. Loop at the far end as shown.
- Switch 'ON' the equipment. Null the digital meter reading to indicate zero. Set V1/V2 selector switch to V1 position.
- Press push button marked "Push to read" and note down the reading on the digital meter. Denote it as "V1".
- Set V1/V2 switch to V2 position. Press the Push Button. Note down the reading on the digital meter. Denote it as 'V2'.
- Substitute 'V1' & 'V2' readings in the formula given below to compute the distance to fault.

Distance to fault from testing end =  $\left\{ \frac{2V1}{(V1+V2)} \right\}$  x length of the cable from end 1 to end 2 in mts/feet.

- Repeat the test from End 2 to cross check the results computed



### Procedure in Brief :

- Connect the faulty phase and sheath/armouring of the faulty cable to the equipment as shown in the connection diagram
- Set the earth / open switch to 'Open' position
- Switch 'ON' the equipment
- Press the push button marked "Push to Read", Note down the reading on the digital meter. Denote it as Cx
- Now connect the output lead clip V2 to a good phase of the same cable
- Press the push button and note down the digital meter reading, Denote is as 'C'
- Substitute the readings Cx and C in the formula given below to compute the distance to fault

Distance to fault from testing End1 =  $\frac{Cx}{C}$  X length of the cable from End1 and End2 in mts/feet

- Repeat the experiment from End2 to cross check the results obtained.

## TECHNICAL SPECIFICATIONS

<b>Test Range</b>	:	50 mts to 1000mts
<b>Display</b>	:	3½ Digit large LCD Display
<b>Potential Distribution Measurement (V1 &amp; V2 mode)</b>	:	By LCD DPM in three ranges (0.2V, 2V, 20V)
<b>Current Measurement</b>	:	By moving coil analog meter (0-5A, FSD)
<b>Input Impedance</b>	:	In three ranges (1M Ohm, 10M Ohm & 50M Ohm)
<b>Capacitance Measurement</b>	:	Direct in four ranges (1nF, 10nF, 100nF & 1000nF)
<b>Nulling Controls</b>	:	By "Coarse & Fine" Controls
<b>Standard Accessories</b>	:	i) Batteries: 6V/10AH Rechargeable battery - 1 No. 12V/3.8 AH Rechargeable battery - 2 Nos. ii) Fault simulating board & leads iii) Leatherite carrying case

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