

## METRIX 1.0 Automated Cable Fault Locating System



### General

- Indian Original equipment manufacturer (OEM) with 20 years of experience in CTV backed by strong sales and service network in India with service centres in all major metros.
- Trained technical personnel with 20 + years of experience
- Now introducing Automated Cable Fault Locating System in Trailer in India with integrated Pre-locator, Cable route tracer and High voltage modules up to 40kV
- The system modularity ensures that even in case of malfunction of any one unit, cable fault location can still be carried out.

### Application

METRIX 1.0 is a diagnostic and test system, which is designed for testing and fault location of both LV, MV & HV cables. The key parameters are flexible to satisfy customer's specific requirements.

\*Specification subject to change without notice

\*Pictures are for illustration purposes only



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## Description

Telemetrics make Automated Cable Fault Locating System is a basic requirement of any power distribution network company. It is a very powerful tool to localize the underground cable fault of any nature in short time. The system is a mobile laboratory having all types of required equipment available to the operator at a site. The Automatic Cable Automated Cable Fault Locating System is a total solution for fault location in any type of power cables.

In Trailer system operator safety is a highest priority. Generally the Trailer is divided in two sections, operator section and high voltage section. HV section is equipped with a proper safe guard such as door interlocks, earth monitoring system, auto discharge, and emergency off controls are provided on operating control panel. These safety controls are very important in any emergency to avoid any major accident.

### Pre-location

After identifying the type of fault, pre-location of fault done determined using the latest pre-location methods such as TDR, ICM, SIM/MIM & Decay that are provided in the system.

### TDR / ECHO Method

A narrow electromagnetic pulse with a fast rise time is sent in the cable that reflects back from the fault point /far end where the impedance is changed. The VOP for each cable depends on the cable dielectric material is set. The distance to the fault is then computed automatically and displayed on pre-locator.

### SIM/MIM Method

The Time Domain Reflectometer using a 200MHz transient recorder to record more than 3 measurements showing the fault position during only 1 high voltage impulse.

### ICM Method

It is a current transient analysis method of pre-location of fault. During a breakdown or flash over at the fault, transient's waves are generated that oscillate back to the source end which is utilized through a linear current coupler and store and displayed on pre-locator.

### Decay Method

It is a voltage transient analysis method of pre-location of fault. Using DC voltage, at a fault point voltage transients are generated that oscillate back to the source end which is utilized through a voltage divider coupler and store and displayed on pre-locator.

### DC Test

Used to check the dielectric strength of insulation in the cable and prove the integrity to identify and confirm fault conditions with a current of 25 mA. The over-current trip is provided for protection to the system under test in the event of the cable under test breaking down.

### Pin-point

Accurate pin-pointing of cable fault is carried out using surge wave tester with the help of surge wave receiver in acoustic method.

### Proof/Burn Test

Using the available DC high voltage with 200mA outputs, the maximum current is applied for stabilizing the unstable cable faults for short period. This allows easier and quick pre-location and pinpointing of the unstable faults.

## Functions

The automatic operating control unit is an integrated central operator inter-face for all operational modes and provides the monitoring of the system and the integrated safety facilities. It enables an easy and quick operation of the system, prevents operational errors and reduces the fault location time considerably. All necessary selection of equipment, switching and operations such as pre-locations, high voltage test, and pin-pointing is carried out on control panel.

## Safety

Telemetrics gives highest priority to safety of operating personnel. The Trailer system is divided in two sections, operator section and HV section. HV section is equipped with proper safe guards such as door interlocks, earth monitoring system, auto discharge. Emergency off control is provided on control panel. External emergency off switch is provided to switch off in case of any emergency. Earth monitoring system is provided which trips the entire system in case of any dangerous high voltages (more than 40kV DC) accumulated on Trailer chassis during high voltage testing. Copper shielding is provided for good and proper earth in high voltage section.

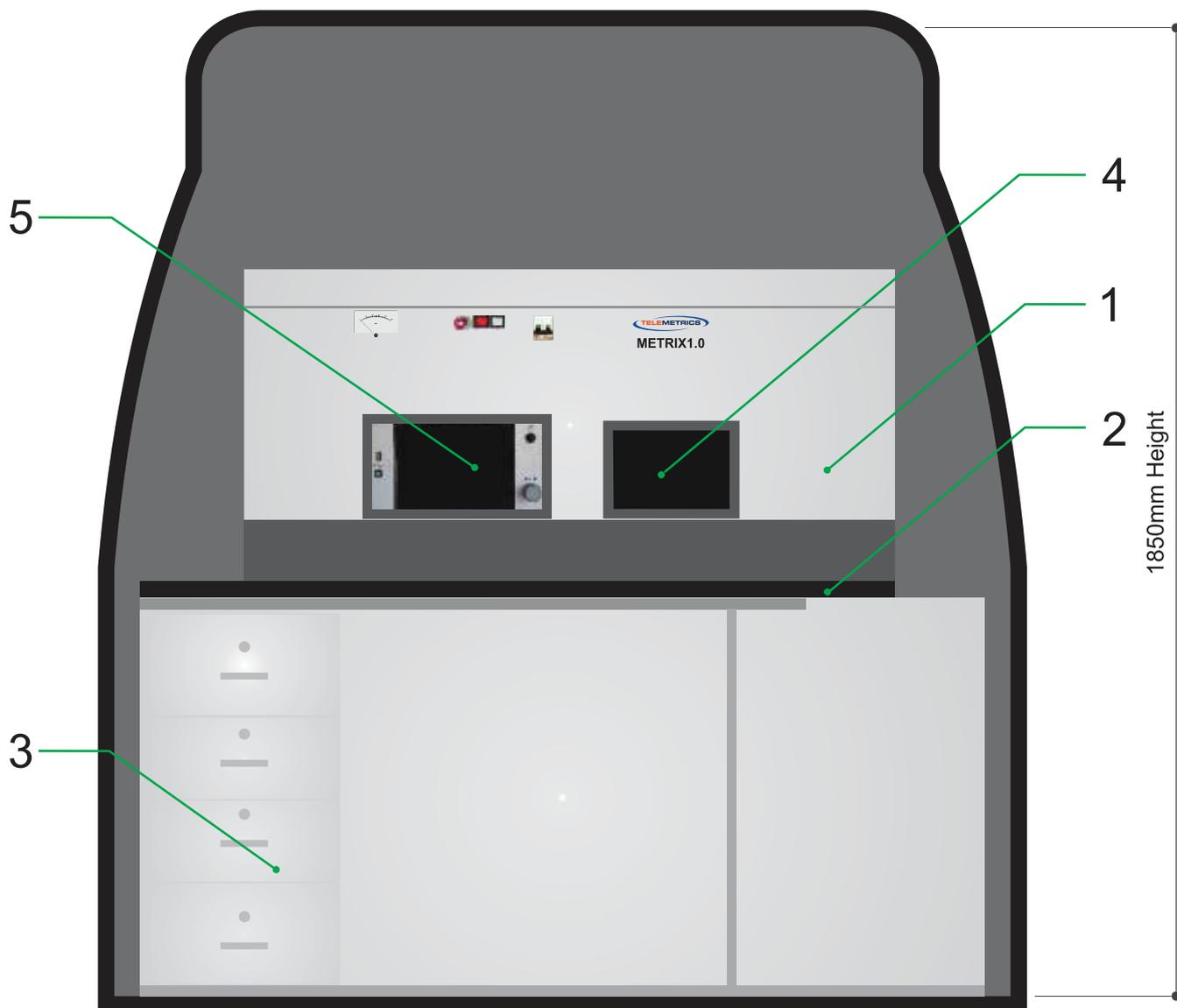
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# Operating Panel



- 1. Microprocessor Unit
- 2. Writing Desk
- 3. Cupboard with Drawers

- 4. Color Touchscreen Control Display
- 5. Cable Fault Pre-locator



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## Features

- DC cable testing up to 40 kV/25mA
- Burning up to 200mA
- Surge voltage in kV : 4 - 8 - 16 - 32
- Surge energy at each stage : 1000J / 1500J / 2000J
- Easy user friendly interface
- High safety level
- Multistep self fault protection
- Sheath fault location up to 10kV
- Surge ranges /time/Hipot voltage setting /Burn voltage setting controlled by single knob rotary switch.
- System error shall be displayed in a display 10.1inch) along with its error code.
- Precise fault prelocating using Time-Domain Reflectometer

**Note : Other ratings of test / burn / surge / sheath shall be available on request .  
For details specification , please consult factory**

## Generator (Optional)

Generator : 3.0kVA Honda or similar make (Optional)

## Trailer

- Air conditioned Trailer with 4 wheel ( Inside dimentions - 3400(L) x 1700(W) X 1850(H) mm
- Seating arrangement for operator
- Seating arrangement for 3 persons including operator
- Writing desk for operator
- Two sections in the Trailer - Operating section & HV section
- Cable Outlet on rear door
- External Emergency OFF
- Air Conditioner

## Cable Drums

- HV Cable 50kV - 50 mtr.
- Mains Cable - 50 mtr.
- Earthing Cable - 50 mtr.
- Aux. Earth Cable - 20mtr.
- TDR Cable - 50mtr.

Other Cable length as per customer request

## Standard Accessories

- Insulation Tester 5kV / 10kV
- SDR - 70kV
- Multimeter
- Rodometer
- Fire Extinguisher
- Isolation Transformer 2.5kVA
- Earth Spike
- Fan
- Tools Set
- Instruction / Operating Manual
- Trailer Flooring - Copper Sheet, Rubber Sheet & Carpet
- Sheath Fault Locator EFL 1 (Optional)

Standard Warranty                      1 Years

Customisation of the systems are available on request



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