



## TESTECRAN+ User's Guide

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## 1. TESTECRAN+

TESTECRAN+ is a hand-held instrument used to verify the condition of the outer sheath of an underground Medium or Low Voltage cable, by measuring the insulation resistance between the cable screen and earth.

## 2. TESTECRAN+ DESCRIPTION

The **TESTECRAN+** consists in one small case (150x80x30mm), weighing only 270 grams.





**TESTECRAN+** is delivered with the following accessories:

- 1 protective carrying case.
- 1 Earth picket.
- 2 connecting cables.
- 4 batteries
- 1 operation manual
- 1 User's guide

The instrument is powered by batteries and the measurement uses 36 Vdc on the disconnected cable

### 3. TESTECRAN+ APPLICATION

**TESTECRAN+** is used in the field, when laying LV or MV cables.

Measurements carried out with **TESTECRAN+** indicate the presence of any faults in the cable to the engineers who can, if need be, fix the cable.

### 4. TESTECRAN+ OPERATION

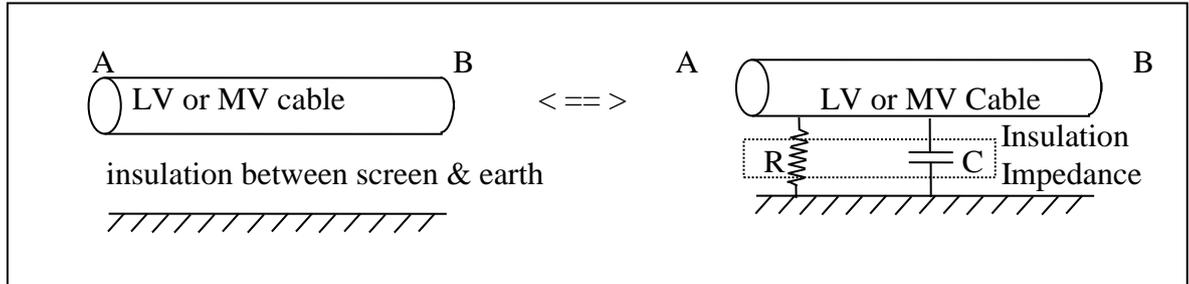
The patented principle employed relies on measuring the insulation resistance between the cable screen and earth.

As the operation is completely automatic, the condition of the sheath is simply indicated by a LED.

## 5. MEASUREMENT INTERPRETATION

### 5.1. Physical representation of the cable under test

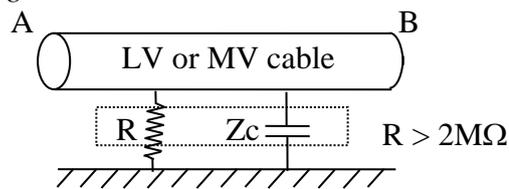
During the laying of the cable, it can be represented by the following diagram.



*Fig1. Physical representation of a buried cable*

Analysis of the cable state gives two possibilities

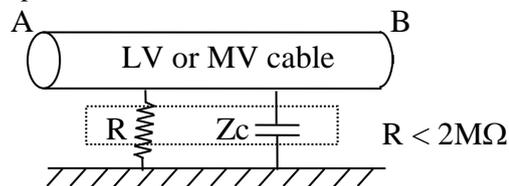
1/ The cable sheath is in good condition



**INTERPRETATION**

**Adequate**  
insulation  
between screen  
& earth

2/ The cable sheath is in poor condition



**INTERPRETATION**

**Insufficient**  
insulation  
between screen  
& earth

## 6. TESTECRAN+ USE

Using **TESTECRAN+** requires two operations :

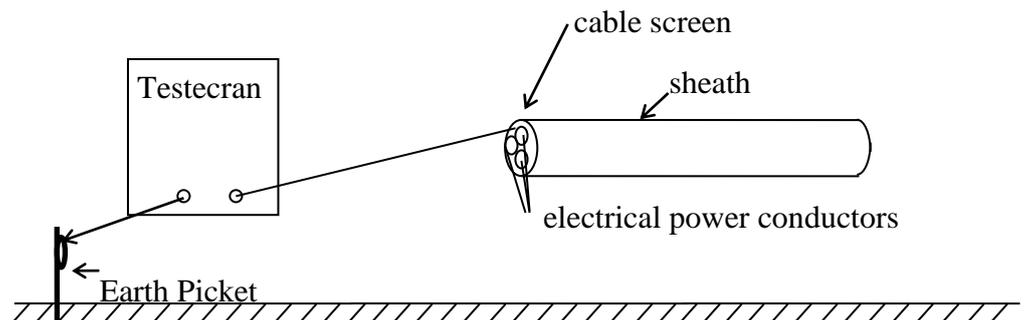
6.1 **STEP 1** : connecting **TESTECRAN+** to the cable screen.

6.2 **STEP 2** : running the **TESTECRAN+** test procedure.

### 6.1. connecting TESTECRAN+ to the cable screen

➔ **Check the ends of the cable under test ;**  
they must be clean, dry and insulated from earth

➔ connect **TESTECRAN+** as shown in the figure below:



### 6.2. running TESTECRAN+

➔ Press the "MARCHE" button.

The measurement and test procedure is automatic :

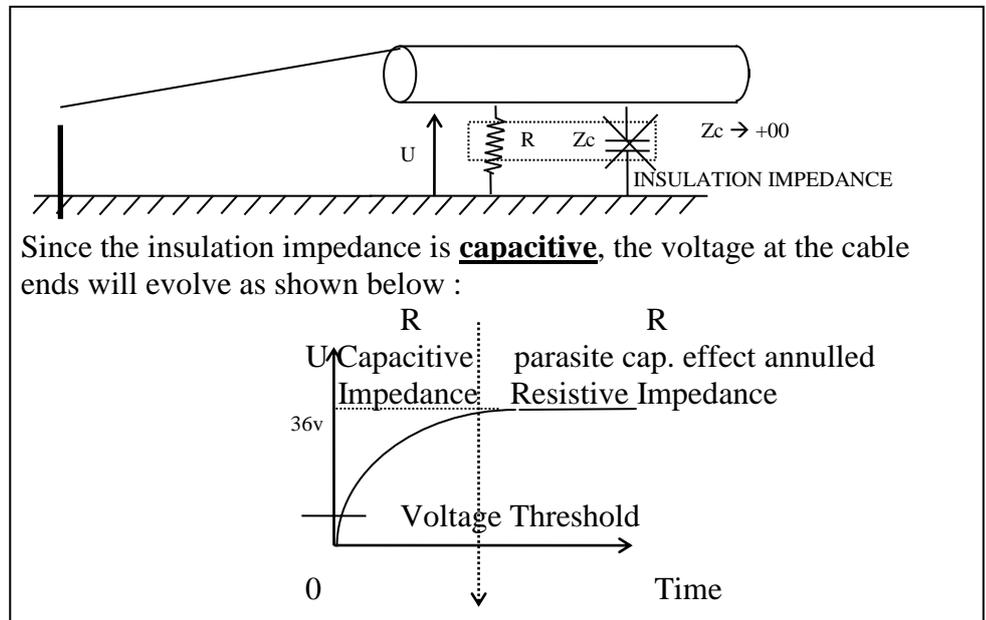
- measurement of the battery voltage and charge state.
- self test
- cable test and display of the result.
- power down.

**NOTE : TAKING THE MEASUREMENT DOES NOT REQUIRE  
PRIOR DISCHARGE OF THE CABLE**

## 6.2.1. Test Procedure

### 6.2.1.1. Charging the LV or MV cable screen.

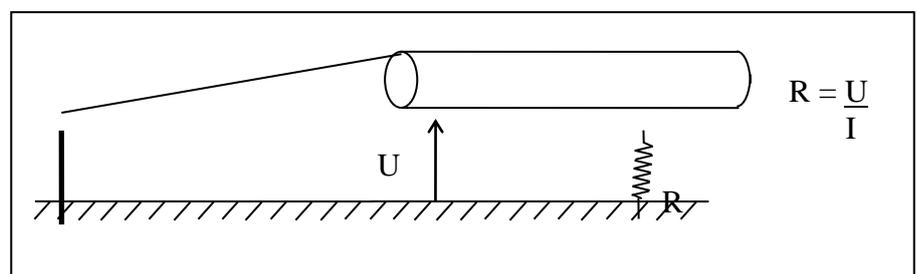
In order to make reliable measurements, the TESTECRAN+ initially charges the screen by applying 36V dc to the cable screen



### 6.2.1.2. Variation of the charge time of the cable screen

The operator does not need to measure the charge time.  
The instrument measures the time automatically.  
Nevertheless, a led flashes once every second, giving a reference to the operator.

### 6.2.1.3. Cable Measurement



*Representation of the charged cable*

#### 6.2.1.4. display of the measurement result

At the end of the charge, **TESTECRAN+** indicates by a red or green led if the cable is operational.

## 7. TESTECRAN+ CHARACTERISTICS

- Case (150 x 80 x 30mm) with a polycarbonate front face, weighing 270g.  
Weight complete with accessories, 550g

\* Standards

**TESTECRAN+** responds to the standards :

- NF EN 50082-1 : CEM (Electromagnetic Compatibility).
- NF EN 61010-1 : Electrical Safety.

\* **TESTECRAN+** is protected against connection to a charged cable.

- Equipment Guarantee : 1 Year.

THE MEASUREMENT PRINCIPLE USED IS COVERED BY  
PATENT/BREVET EDF N° 93 07980  
OF WHICH THE COMPANY MADE-SA IS THE EXCLUSIVE LICENCEE

## 8. MAINTENANCE CONTRACT PROPOSAL

Includes :  
- the repair of **TESTECRAN+** in the event of a malfunction found during use conforming to the manufacturer's operating instructions  
- annual calibration in our premises.  
- battery change at that time.  
- guaranteed battery life : One year.

## 9. FAULT FINDING

- ➔ If the LED « Défaut Pile » lights: change the batteries(see maintenance contract).
  
- ➔ If the LED « Défaut interne » lights: Return the instrument to the supplier for fault diagnosis & repair.

## OPERATIONAL FLOW DIAGRAM

