

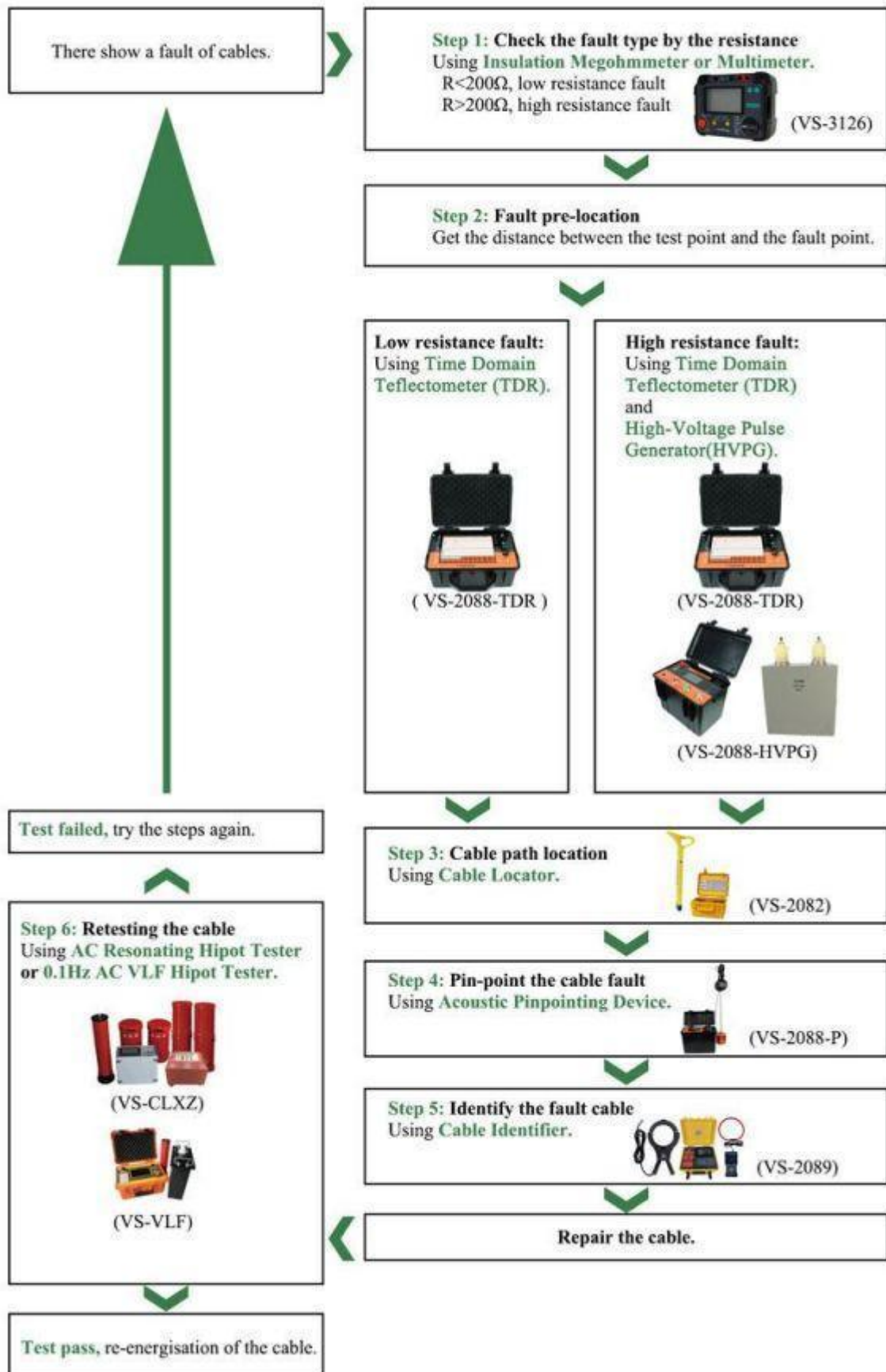


## **Underground Cable Fault Distance Locator**

Weshine® invented the Underground Cable Fault Distance Locator with CE certificate, high quality and accuracy, Invented and produced according to national standards, complete electric testing solution available. Contact us for more details of Underground Cable Fault Distance Locator from Weshine!

What should you do when there are cable faults?

## The steps to detect cable fault are as follows:



Most cable fault you can't see it by eyes, so you need the location system of the cable fault. This is a multi-step process that needs to be done as safely and quickly as possible, as power is not available to the customer.

**Step 1. Cable separation and security measures:** Cable failure is almost always irreversible. This means that the cable in question has tripped a protective device at one or both ends of the cable and the cable is insulated and not grounded (ungrounded).

The first task is to secure the cables by qualified personnel. Before grounding, it is recommended to insulate one or both ends. Only by following the proper procedures can the tester approach the cable and prepare it for testing.

**Step 2. Cable identification:** If there are multiple cables, the cable identification test determines the correct cable to use. Clear identification of cables before cutting them is essential for safe maintenance work. Errors here can be fatal and lead to even longer disconnections of connected clients.

**Step 3. Tracing the cable:** When underground cables are first laid, they rarely run in a straight line, but curve in depth and direction. A cable trace is performed to ensure that the cable route follows the expected path.

**Step 4. Fault Identification:** The first important step is to identify the faulty phase and determine if it has a low or high resistance.

This test determines the correct methods and equipment for fault diagnosis. Typically, if the noise is less than 100 ohms, a low voltage pulse (eg 40 V) from a TDR (Time Domain Reflectometer) can be used. Faults are associated with higher resistance (> 100 ohms) and may not be detected with low voltage pulses. For such failures, a shock generator (shock discharge) is required.

**Step 5. Preliminary determination of the location of damage:** To locate cable faults quickly and effectively, you need a reliable and accurate pre-detection method (by Weshine® **Underground Cable Fault Distance Locator**). Early detection of serious faults can be localized within a few percent of the cable length, reducing isolation time to minutes.

Remember:

- a) For low resistivity faults, pre-localization was probably the only option.
- b) In case of high resistance short circuit, ARM (arc reflection) or ICE (pulse current) must be used with SWG (pulse wave generator). location in advance.

**Step 6. Pinpoint:** The test method described above allows the operator to be within 5% of the obstacle. To narrow error bars to 0.1%, the acoustic accuracy method



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should be used. Most often, shock discharge generators are used for identification in combination with acoustic methods. The electrical discharge creates a loud noise that can be accurately identified using acoustic identification equipment. This device evaluates the time difference between the acoustic signal (speed of sound) of an impact and an electromagnetic (close to the speed of light) pulse. The exact location of the fault is determined by indicating the smallest time difference.

Step 7. Reconnect the cables: Upon completion of all tests and repairs, the safety/test documentation will be cancelled. The cables are then returned to the appropriate operators for repair and reconnection of the newly repaired cable loads.

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## Customer on-site feedback



## Product Introduction

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Electrical networks had to become more flexible, respond quickly to changes and demand better performance. This need for flexibility is especially important when there are multiple sources of power generation, such as intermittent power from renewable sources such as solar and wind. Today his SMART grid technology can quickly identify faults in substations and generator sets, but cable faults can occur anywhere in the network. Finding cable faults quickly for repair is a top priority to avoid long recovery times (through Weshine® **Underground Cable Fault Distance Locator** could done easily). First of all, this affects reliability indicators, especially in the power industry. These metrics include the SAIDI (the System Average Interruption Duration Index), which measures the total duration of an average client interruption over a period of time, and the SAIFI (the System Average Interruption



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Frequency Index). It is calculated by dividing the total number of clients. Interrupted by the total number of clients served.

## Weshine® Underground Cable Fault Distance Locator Parameter (Specification)

PRODUCT INFORMATION			
Product Name	Split-type <b>Underground Cable Fault Distance Locator</b>		
Model Number	VS-2088	Certificates	CE; EMC; LVD; ISO;
Measuring Distance	60 km	Blind Area	<1 m
Measuring Method	Low-voltage pulse method, flash current method, multiple pulse method.		
Product Function	Locate cable faults below 35 kV.		
Typical Application	Power cable, street lamp cable, airport signal cable, railway communication control cable...		

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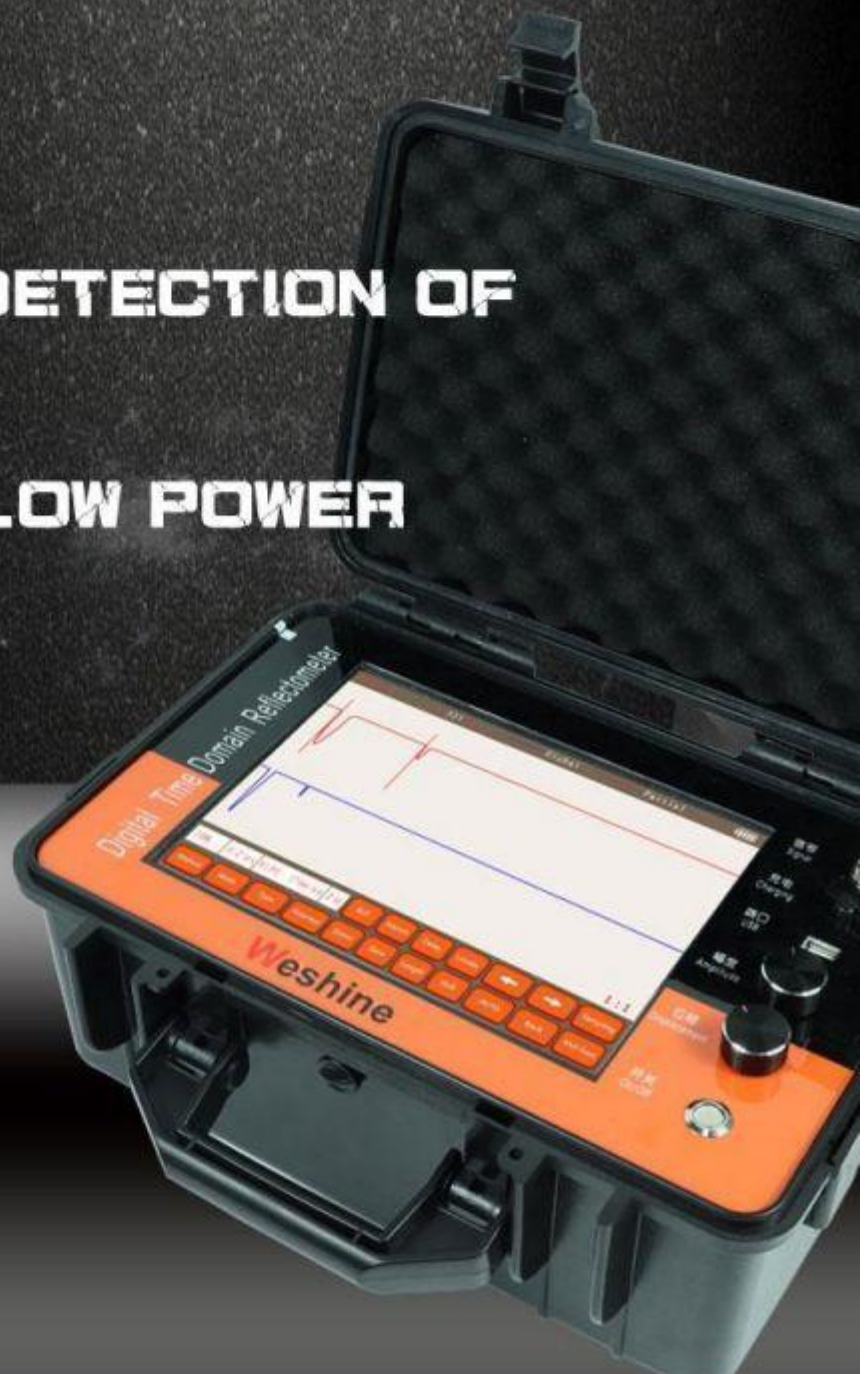
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# CABLE FAULT TESTER

**FAULT DETECTION OF  
35KV  
AND BELOW POWER  
CABLES**



# FEATURES





**Sampling methods:**

Low-voltage pulse method(TDR)

shock flash-over method(ICM)

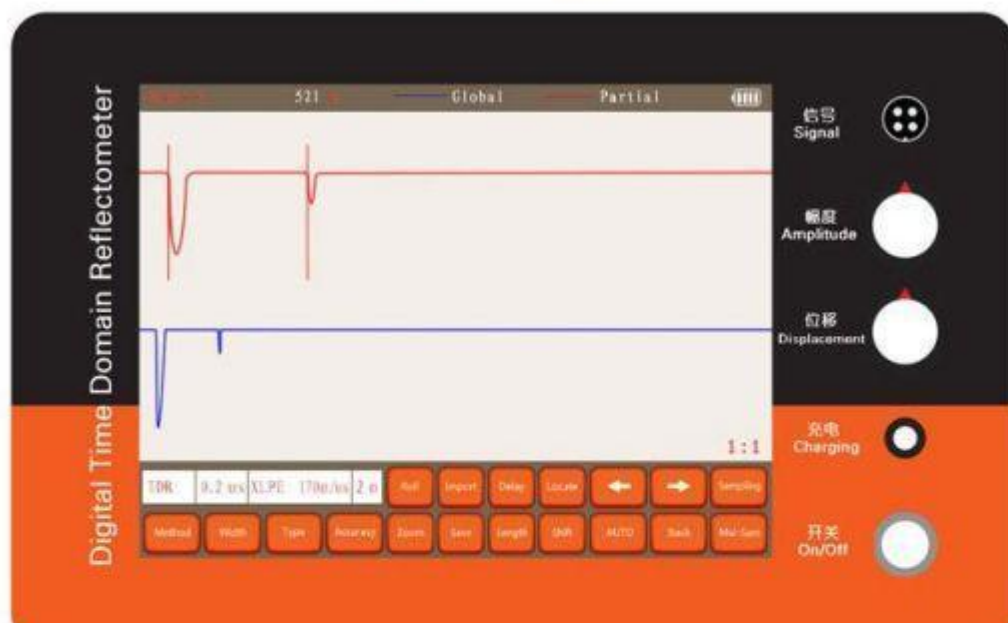
speed measurement method(Speed)

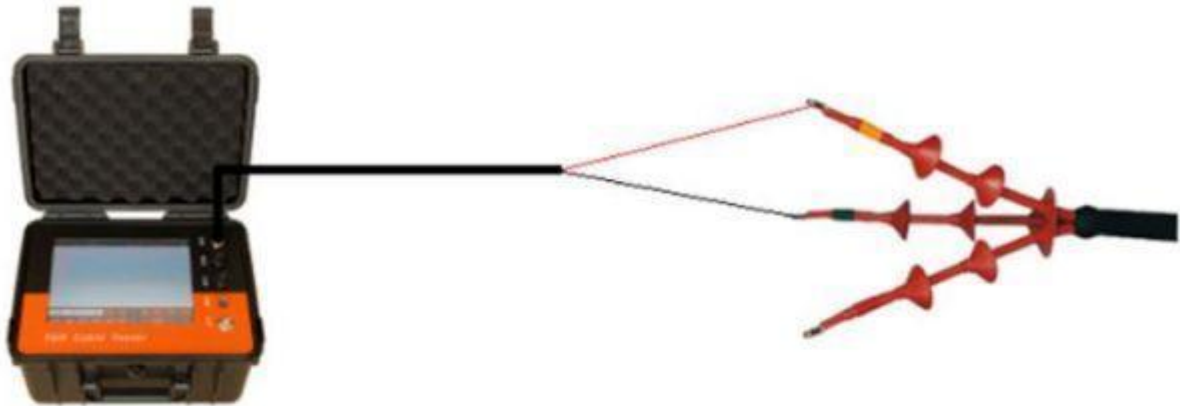
**Test distance:**

< 60km, blind area  $\leq$  1m

10.4 "color touch LCD screen

# PRODUCT INTRODUCTION



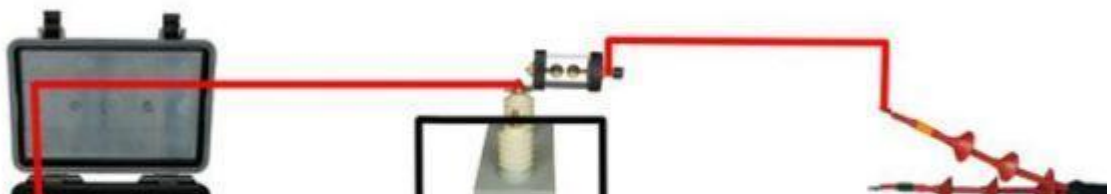


## **SHORT CIRCUIT FAULT DETERMINATION AND LOCATION**



**SURGE VOLTAGE GENERATOR**

## **IMPACT FLASHOVER METHOD**



- **IMPACT ENERGY: 1024J**
- **OVERVOLTAGE AND OVERCURRENT PROTECTION**

## FULL FREQUENCY

100 - 1500Hz

## LOW PASS

100 - 400Hz

## BAND PASS

150 - 600Hz

## HIGH PASS

200 - 1500Hz



## CABLE FAULT LOCATOR



# DIMENSIONS



**CABLE FAULT TESTER**  
**L360MM × W270MM × H170MM**



**SURGE VOLTAGE GENERATOR**  
**L370MM × W270MM × H330MM**



**2UF/30KV CAPACITOR**  
**L300MM × W269MM × H420MM**



**CABLE FAULT LOCATOR**  
**L240MM × W100MM × H220MM**



**CABLE FAULT LOCATOR**  
**L520MM × W280MM × H200MM**

4	Cable Fault Locator	1 pc
5	Accessories	1 set



# LIVE SHOW





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THE STEPS TO DETECT CABLE FAULT ARE AS FOLLOWS:

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**THE STEPS TO DETECT CABLE FAULT ARE AS FOLLOWS:**

<h2>STEP 1</h2>	<h3>CABLE IDENTIFICATION</h3> <p>Where multiple cables exist, cable identification testing will identify the correct cable to work on.</p> <p>&gt;&gt;<a href="#">VS-2089 Cable Identifier</a></p>	
<h3>CABLE TRACING</h3> <p>Cable tracing is done to determine that the route of the cable is following the expected path.</p> <p>&gt;&gt;<a href="#">VS-2082 Split-box Cable Path Locator</a></p>		<h2>STEP 2</h2>
	<h2>STEP 3</h2>	<h3>FAULT IDENTIFICATION</h3> <p>The first major procedure is to determine the phase on which the fault has occurred, and if it is of low or high resistance.</p> <p>&gt;&gt;<a href="#">VS-3126 Insulation Resistance Tester or Multimeter</a></p>
<h3>FAULT PRELOCATION</h3> <p>A reliable and precise pre-location method is necessary to locate a cable fault quickly and efficiently.</p> <p>&gt;&gt;<a href="#">VS-2088 Cable Fault Location System</a></p>	<h2>STEP 4</h2>	
<p>Generally, there are two kinds of cable faults:</p> <ol style="list-style-type: none"> <li>1. low resistance (&lt; 100 Ohms)</li> <li>2. high resistance (&gt; 100 Ohms)</li> </ol>	<h2>SITUATION 1</h2>	<h3>LOW RESISTANCE (&lt; 100 Ohms)</h3> <p>If it is a low resistance fault, pre-location was likely to be the only means necessary for location.</p> <p>&gt;&gt;<a href="#">VS-2088-TDR Time Domain Reflectometer(TDR)</a></p>
<h2>SITUATION 2</h2>	<h3>HIGH RESISTANCE (&gt; 100 Ohms)</h3> <p>For high resistance faults, ARM (arc reflection) or ICE (impulse current) techniques on an SWG (surge wave generator) should be used. Alternatively, the decay method with an HV DC tester (bridge),</p>	

## Selections

Weshine has 8 years of experience specifically for deal with complete range of Electrical Equipment. At present, Weshine has invented various **Underground Cable Fault Distance Locator** for each step as shown as form:

RELATED PRODUCT INFORMATION OF <b>Underground Cable Fault Distance Locator</b>		
Cat. No.	Product Name	Typical Application
VS-2089	Cable Identifier	Where multiple cables exist, cable identification testing will identify the correct cable to work on.
VS-2082	Split-box Cable Path Locator	Cable tracing is done to determine that the route of the cable is following the expected path.
VS-2088-TDR	Time Domain Reflectometer(TDR)	If it is a low resistance fault, pre-location was likely to be the only means necessary for location.
VS-2088-HVPG	High-Voltage Pulse Generator(HVPG)	For high resistance faults, ARM(arc reflection) or ICE(impulse current) techniques on an SWG(surge wave generator) should be used.
VS-2088-P	Acoustic Pinpointing Device	The discharge creates a loud noise, which is pinpointed precisely using an acoustic pinpointing device.
VS-CLXZ	AC Resonating HiPot Tester	It is especially suitable for the withstand voltage test of power cables.
VS-VLF	0.1Hz AC VLF HIPOT TESTER	VLF testers are smaller and more practical than AC testers but output the same amount of power as a 50 Hz mains device.

Based on Supply Chain issues: Please contact your preferred Authorized Weshine Distributor for current pricing and lead times. Weshine provides each customer with the most complete cable fault test solution.

## Quality Certificates

We always believe that all the success of our company is directly related to the quality of the products we provide. **Underground Cable Fault Distance Locator** meet the highest quality requirements specified in ISO9001, ISO14000:14001 guidelines and our strict quality control system.





## Shipment



For further information on Weshine's Service Solutions, contact our 24/7 online sales representative to get quotes from Weshine.

## Contact us

<b>FEEL FREE TO MAKE A PHONE CALL:400 996 1868</b>	<b>OR E-MAIL TO: <a href="mailto:info@weshineelectric.com">info@weshineelectric.com</a></b>
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