



TFN FB11 Cable Fault Tester

A complete solution for precise distance measurement, path detection, and fault location



Product Overview

The FB11 is a high-performance cable fault testing system developed by TFN based on years of professional experience. It integrates four key functions: fault location, path detection, high-voltage signal generation, and precise location pinpointing. Designed specifically for resolving various difficult faults on power cables 35kV and below, the system performs the entire process from rough measurement to precise location pinpointing, making it an ideal choice for cable maintenance in sectors such as power, municipal administration, communications, and landscape architecture.

System core components and functions :

FB11 is a complete system consisting of four specialized units working together to cover the entire troubleshooting process:

1. Cable Fault Location Host – Quickly locate the fault area

Function: Accurately measure the distance to the cable fault point and determine the nature of the fault (high resistance, low resistance, open circuit, short circuit).

Highlights:

- No test blind area: Combining low-voltage pulse method and high-voltage flashover method to deal with all types of cable faults.
- High-precision measurement: system accuracy is less than 50 cm , reading resolution is less than 1 meter , and the test distance exceeds 64 kilometers .
- Smart comparison: The fault waveform can be compared with the intact waveform on the same screen, and the fault distance can be automatically determined, which is intuitive and easy to understand.
- Strong and reliable: With high-voltage protection measures, it will not freeze or be damaged in high-voltage shock environments.

2. Cable Path Finder – Identify the path of underground cables

Function: Accurately detect the buried path and depth of cables in complex underground environments.

Highlights:

- Dual-frequency signal: supports low-frequency and high-frequency AC signal output to adapt to different site conditions.
- Multiple indications: Signal strength is indicated by digital size, grating lifting and lowering, sound and other methods, making positioning more intuitive.
- Depth measurement: The maximum measurable depth is 2.5 meters , meeting most burial scenarios.
- Constant power output: Automatically matches the load to ensure the equipment always works in the best condition.

3. Lightweight high voltage signal generator – stimulates high resistance fault signal

Function: Provide high voltage impact for high resistance fault, causing flashover discharge, so that the distance measuring host and fixed point instrument can capture the signal.

Highlights:

- Safe and reliable: It adopts switching power supply electronic boost, has open circuit and short circuit automatic protection functions, and the box is made of engineering plastic insulation material, which is safe to operate.
- High voltage output: Maximum output voltage <36kV , which can effectively break down high resistance fault points.
- Dynamic display: The color LCD screen displays the output voltage in a compass-style dynamic display, which is clear and intuitive.

4. Acoustic and magnetic synchronous positioning instrument – accurately locate the fault point

Function: Accurately locate the actual buried position of the fault point on the ground within the fault area (accurate to the point).

Highlights:

- Acoustic and magnetic synchronization: Synchronously receives the acoustic and electromagnetic waves generated by the fault point discharge, and processes them through the CPU to effectively eliminate interference from environmental noise.
- Distance display: The LCD screen directly displays the real-time distance between the probe and the fault point , guiding the operator to reach the target directly.
- Ultra-high precision: The positioning error is less than 0.2 meters , which greatly reduces the excavation range and saves manpower and time costs.

Solve your core work pain points :

- Pain point 1: Single device function and complicated process
FB11 solution: Provides a one-stop complete solution from distance measurement → path finding → high voltage generation → precise location , eliminating the need to purchase multiple sets of equipment and improving work efficiency.
- Pain point 2: Complex on-site environment and easily damaged equipment
FB11 solution: The distance measuring host has high-voltage protection and will not crash in shock environments; the high-voltage unit has an automatic protection function , and the system design is rugged and durable, suitable for field work.
- Pain point 3: Test results rely on experience, making it difficult for novices to judge



FB11 solution: The waveform comparison function and automatic fault judgment lower the analysis threshold; the digital and graphical display of the path meter and fixed-point meter make the signal clear at a glance.

- Pain point 4: Difficulties in operating without power

FB11 solution: The distance measuring host has a built-in power supply, which can support more than 3 hours of field work; the path detector has a battery life of more than 6 hours, meeting the needs of emergency repairs in environments without mains power.

Summary of main technical parameters :

unit	Key parameters
Distance measuring host	Test method: low voltage pulse method, high voltage flashover method Test distance: >64km System accuracy: <50cm Data sampling: 100MHz Display: 8-inch color LCD touch screen
Path Finder	Detection depth: Maximum 2.5 meters Transmitter power: Constant power, maximum 1A Receiver gain: 0-99dB adjustable Working time: >6 hours
High voltage generator	Output voltage: < 36kV Discharge energy: < 1200J/5S Minimum discharge cycle: 3 seconds
Acoustic magnetic pointing instrument	Positioning error: < 0.2 meters Display distance: 0.1 - 22.6 meters Sound wave amplification: 120dB

Wide range of application scenarios :

1. Power system: Troubleshooting and preventive testing of 35kV and below transmission and distribution cables.
2. Municipal engineering: street light cables, traffic signal cables, and underground pipeline maintenance.
3. Communications industry: Fault location of power cables in tower communication base stations.
4. Landscaping: Path finding and fault repair of underground cables in parks, green belts, etc.

Why choose FB11 system?

The FB11 is more than just a set of instruments; it's a deeply integrated, professional workflow. It addresses the core pain points of traditional testing: poor equipment



connectivity, complex operation, and high user experience requirements. Whether facing simple faults or complex high-resistance faults, the FB11 provides clear, accurate, and efficient solutions, significantly reducing mean time to repair (MTTR).

