



TFN FB18 Cable Fault Testing System

Integrated integration and precise positioning make cable troubleshooting easier



Product Overview

The FB18 is a highly integrated, comprehensive cable fault testing solution from TFN. It integrates four key functions: fault distance measurement, path detection, precise location determination, and high-voltage signal generation. Designed for rapid troubleshooting of various power cable faults up to 35kV. The system's integrated and intelligent design significantly reduces operational barriers and improves overall efficiency from location to pinpoint determination. It is a valuable tool for cable maintenance in power, municipal, landscape, and industrial/mining enterprises.

System core components and functional highlights:

The FB18 system consists of four professional units working together to form a complete working closed loop:

1. Cable Fault Distance Detection Host – One-click distance measurement, easy judgment

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

- Core selling points:

Intelligent automation: It can automatically locate the distance to the fault point, greatly reducing the dependence on operator experience and making fault distance measurement "simple and easy".

High-definition touch screen: 8-inch color LCD touch screen, which displays waveforms clearly and allows for intuitive and convenient operation.

Waveform comparison and analysis: The fault waveform can be compared and superimposed with the intact waveform on the same screen, and the fault distance can be intelligently judged with clear results.

Rugged and safe: Equipped with high-voltage protection measures, it will not crash or be damaged in high-voltage environments, and the built-in power supply supports operation in environments without mains power.



2. PTR50 Intelligent Locator – Synchronous acoustic and magnetic positioning for precise positioning

- **Function:** After the fault distance is known, the actual buried position of the fault point can be accurately locked on the ground.

- **Core selling points:**

Multiple display guidance: It has the digital size display of sound waves, electromagnetic waves and the distance prompt of the fault point (0-25 meters), which guides the operator to approach the fault point like a "navigator".

Super strong anti-interference: equipped with anti-interference military headphones and combined with multiple filtering bands, it can effectively capture real discharge signals in complex environments.

Waveform visualization: Real-time display of audio waveforms and step voltage waveforms, which can assist in judgment by analyzing waveform features, avoiding fatigue and misjudgment caused by relying solely on human hearing.

3. T6000 Cable Path Finder – Fully digital technology for cable path identification

- **Function:** Detect the precise path and depth of underground cables and solve the identification problem in a multi-cable environment.

- **Core selling points:**

Fully digital electromagnetic induction: advanced technology that can easily solve the problem of path detection for metallic dead short circuit faults .

Multi-frequency and multi-mode: Provides multiple operating frequencies and output modes (induction, direct connection, clamp) to adapt to various complex site conditions.

Long battery life: The transmitter can last for more than 12 hours in energy-saving mode , meeting the needs of long-term field work.

4. Battery-integrated high-voltage signal generator – safe and portable, power core

- **Function:** Provide high voltage impact for high resistance faults to cause flashover, facilitating distance measurement and location determination.

- **Core selling points:**

Truly integrated: The high-voltage power supply, pulse capacitor, discharge mechanism, etc. are scientifically integrated into a closed box. The high-voltage components are not exposed , which is safe and reliable.

Multiple working modes: supports continuous pulse, DC, single pulse and other modes, adapting to different test methods.

Battery powered, portable design: can work without mains power, small size and light weight, especially suitable for use in sites without power supply or in limited space.

Solve your core work pain points :

- **Pain points:** Traditional equipment is complex to operate, and result analysis relies on the experience of experienced technicians.

FB18 solution: The automatic distance measurement and waveform comparison functions allow novices to quickly get started and make accurate judgments.

- **Pain point:** The fault location process is time-consuming and labor-intensive, especially in noisy environments where it is difficult to hear the discharge sound.



FB18 solution: The intelligent locator's digital distance display, waveform screen, and military-grade anti-interference headphones upgrade "listening" positioning to intelligent positioning that combines "seeing" and "listening."

- Pain points: The system has numerous devices, complicated connections, and is inconvenient to carry.

FB18 solution: The high-voltage generator features a highly integrated design with simplified wiring. Each unit is designed with portability and battery life in mind, making the entire system easy to move and deploy.

- Pain point: When encountering difficult faults such as metallic short circuits, the path is difficult to detect.

FB18 solution: The path finder uses fully digital electromagnetic induction technology to specifically address this type of challenge, ensuring the troubleshooting process is not interrupted.

Summary of main technical parameters :

unit	Key parameters
	Test method: low voltage pulse method, high voltage flashover method
Distance measuring host	Test distance: > 64km System accuracy: < 50cm Display: 8-inch color LCD touch screen Sampling rate: 100MHz
Smart locator	Fixed distance display: 0 - 25 meters Fixed error: Audio test accuracy 0.1m Display: 4.3-inch OLED color LCD screen Battery life: about 7 hours
Path Finder	Detection depth: 0 - 6m and above Positioning accuracy: 5% of depth (0-3m) Transmitter battery life: >12 hours (energy saving mode) Operating frequency: 577Hz - 133kHz multi-speed adjustable
High voltage generator	Working mode: continuous pulse, DC, single pulse Power supply: battery/mains power Features: integrated integration, automatic protection

Wide range of application scenarios :

1. Power industry: Fault repair and routine maintenance of 35kV and below transmission and distribution cables.
2. Municipal transportation: path finding and fault location of street light cables and traffic signal cables.



3. Industrial and mining enterprises: maintenance of power cables within the factory area.
4. Community gardens: troubleshooting of underground cables in residential areas and park green belts.

Why choose FB18 system?

The core value of the FB18 lies in its "simplification ." Through its automated, visual, and integrated design, it transforms cable fault testing, once complex, specialized, and experience-based, into a standardized procedure with clear processes, intuitive results, and easy operation. This not only significantly improves work efficiency and shortens power outages, but also effectively reduces the skill threshold and training costs for enterprises.

