D43E
Intelligent Cable Fault Location System

- Integrates a built-in DC high-voltage generator, high-voltage capacitor, inductive-type multiple-pulse arc reflection unit, and various signal acquisition modules into one unit;
- Electric control high-voltage switch technology eliminates the risk of misoperation caused by manual switches or wiring;
- Supports DC withstand voltage, burning-through, and fault breakdown tests with a maximum voltage of 40kV;
- 32 kV single-range pulse capacitor, with a maximum output of 2048 joules of impact energy;
- Portable high-power pulse reflectometer with an output voltage of 200 V, capable of standalone use at the test site;
- Ground voltage and ground resistance safety monitoring and protection;
- Intelligent high noise reduction cable fault pinpointer, which can be reliable even in environments with significant background noise;

Composition:

1. **D43E Intelligent Cable Fault Location System (High-Voltage Unit)**
2. **D4000B Color Intelligent Cable Fault Location TDR**
3. **DD4 Cable Fault Pinpointer**

Uses:

Used for rapid location and pinpointing of short-circuit, low-resistance, open-circuit, high-resistance leakage, and flashover faults in power cables of low-, medium-, and high-voltage grades;

Ranging:

● Incorporates a powerful, advanced, and portable trolley-mounted intelligent fault location system that integrates a DC high-voltage generator, high-voltage capacitors, an advanced active multiple-pulse arc reflection unit, and various signal acquisition modules into one unit.

● Utilizing patented low-voltage control technology for high-voltage switchgear, this system offers motorized control for switching across various test modes. The automated process ensures that all high-voltage connections are adjusted without manual intervention during tests, effectively eliminating any risks associated with manual switching or wiring errors, thereby guaranteeing safety and reliability.

● Includes an advanced active multiple pulse arc reflection filter, offering extended arc stabilization for easier fault detection in moisture-affected and water-compromised cables, resulting in clearer waveform analysis.

● In Multiple Pulse Mode (MIM), with one-key operation, you can once complete the sampling of cable short-circuit waveforms and full-length waveforms and conduct on-screen comparison, making it simple and efficient.

● Features a high-voltage power supply capable of up to 40kv DC for dielectric strength testing, burn-through, and fault breakdown assessments.

●Built-in high-voltage output terminals that use high-voltage silicon rubber coaxial cables for simple, safe, and reliable wiring.

● Equipped with wide wheels to ensure smooth mobility, making it easy to transport and operate on-site.

● Testing methods:

Low voltage pulse sampling method;

MIM:Multiple impulse sampling method with surge voltage;

ICM /THUMP: Impulse current sampling method / Thump (Pinpointing) output;

DCM: DC Sampling method;

DC/BURN:DC output/ burn for fault conversion;

DCP: Direct Current Pulse (Periodic Interval DC) Output;

●DC High-Voltage Output: 0–40 kV negative polarity, Maximum output current: 76 mA

●Surge Capacitors: 0–32 kV, 4 μF, with a maximum output energy of 2048 J;

● Built-in ball gap impact discharge: Weak electric control electromagnetic valve air gap, impact discharge cycle adjustable from 3 to 12 seconds.

● Cable sheath testing and sheath fault location: Cycle intervals DC 1:1-1:6S, voltage or current can be graded.

●Features a 10.4-inch industrial-grade wide-temperature touch screen for a more intuitive display and convenient operation, and has a battery life of over 8 hours.

●Output Pulses: 0.1–9.9 μs, maximum amplitude of 200 V, arbitrarily adjustable.

● Test error:

Relative error of rough measurement: not more than ±0.2%;

Absolute error of rough measurement:No more than 1 meter for cables of lengths below 2 kilometers;

No more than 2 meters for cables over 5 km in length.

● Protection:

Under any circumstances, pressing the "HV OFF" button activates a dedicated built-in safety mechanism to rapidly and automatically discharge residual charge from the impulse capacitor and the cable under test, ensuring safety.

Zero-voltage Position Protection: Prevents misoperation and ensures proper operation to maintain the safety of individuals and the test object;

High Voltage Limit: If the set maximum voltage is exceeded, the unit will automatically stop and discharge automatically;

Ground voltage and ground resistance safety detection and protection;

Pinpoint Features:

●**Ergonomic and Ultra-Lightweight Receiver:** Designed for comfort and ease of use during extended periods.

●**Clear Display of Magnetic and Acoustic Signals:** The monitor vividly displays the strength of both magnetic and acoustic channels and the trigger point for precise identification.

●**Integrated DSP Signal Processing:** Offers interference suppression for clearer signal interpretation.

●**Magnetic Flux Path Tracking:** Utilizes an electronic compass to visually indicate the cable path, enhancing traceability.

●**Intelligent Noise Reduction:** Automatically analyzes and compares sound characteristics, ensuring silence during non-discharge periods.

●**Adaptive Noise Reduction:** Actively reduces background noise, accentuating discharge sounds for better fault detection.

●**Versatile Filtering Options:** Includes four filter modes (low pass, band pass, high pass, all pass) to effectively suppress unwanted noise.

●**Auto Mute Function:** Automatically mutes sound during sensor movement to minimize disturbance from strong noise.

●**Advanced Positioning Accuracy:** Combines synchronization and time-difference modes with various noise filter settings to enhance the precision and speed of fault localization.

●**Comprehensive Configuration:** The device includes a receiver and a sensor unit, accompanied by a range of accessories for adaptability to various ground conditions.

●**Durable Construction:** The device's housing is designed to meet the IP66 protection standard, ensuring durability and resistance to environmental elements.

Pinpoint technical data:

Acoustic-magnetic synchronization pinpoint function	Sound channel	Bandwidth	Full-pass	80Hz~1500Hz
			Low pass	80Hz~400Hz
			High pass	200Hz~1500Hz
			Bandpass	150Hz~600Hz
		Maximum signal gain		>=80dB
		Pinpointing accuracy		0.1m
	Magnetic field	Maximum signal gain		>80db

	channel	
Acoustic-magnetic synchronization background noise reduction mode		Support three modes: strong noise reduction, adaptive noise reduction, and no noise reduction
Step voltage pinpoint function (optional)	Maximum amplification	>80db
Power supply	Battery	Built-in lithium-ion battery pack, nominal voltage 7.4 V, capacity 3400 mAh
	Use time	Continuous use time >9 hours
	Charger	Input AC220V±10%, 50Hz; nominal output 8.4V, 1A
	Charging time	<6 hours
Display mode		800×470 high-brightness color LCD, visible in sunlight
Dimensions (L x W x H)		Main unit 210mm×95mm×115mm
Weight		Main unit 0.9kg; Sensor 1.4kg

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