RDCD-II Cable Fault Testing System

RDCD-Ⅱ/502Z

RDCD-Ⅱ/5354Z

RDCD-Ⅱ/503D

RDCD-Ⅱ/507

RDCD-II Cable Fault Testing System is the achievement of our company's continuous improvement and innovation for many years. The product is the leading product of cable fault testing instruments at home and abroad at present, applying modern power electronic technology. It can also measure low resistance, short circuit, open circuit and broken line faults, high resistance leakage and high resistance flashover faults of various high frequency coaxial cables, local telephone cables, street lamp cables and buried wires with different cross sections by using the distance measurement, path finding and location of the main insulation fault points of power cables with voltages of 35kV and below. The system consists of four parts: RDCD-II/502Z Cable Fault Pre-locator, RDCD-II/5354Z Cable Test High-voltage Signal Generator, RDCD-II/503D Cable Fault Locator and RDCD-II/507 Ppipeline Detector. The characteristics and parameters of each part are as follows:

1. RDCD-II/502Z Cable Fault Pre-locator

RDCD-II/5012Z Cable Fault Pre-locator is used for power cable fault pre-location.

1) functional features:

- Windows operating system, touch operation mode;
- It has ranging, speed measurement and other functions;
- Data sampling rate: 60MHz、120MHz、240MHz
- Fully automatic continuous sampling, never missing any discharge waveform;
- Test methods: flashover method, low-voltage pulse method

2) Equipment parameters

- Pulse amplitude: 400Vpp
- Pulse width: 0.1us and 2us

- Measurement distance: Smax: 60km Smin: 15m
- Measurement error: absolute error of rough measurement ± 10m; relative error of rough measurement ± 1%

2. RDCD-II/5354Z Cable Test HV Signal Generator

RDCD-II/5354Z Cable Test HV Signal Generator provides high-voltage signal source for fault location and accurate positioning of power cables. The device integrates DC high-voltage source, energy storage capacitor and discharge ball gap. The device adopts special high-voltage electronic components with high accuracy and stability and high-frequency high-voltage technology, which makes the whole machine simple in structure and super light in weight. In order to keep people's habit of using transformers and operation boxes to generate DC high voltage, this pulse generator adopts humanized design and operation mode, which is safe and reliable, and is the ideal product we have always dreamed of for power cable fault detection.

1) Functional characteristics

- It has automatic protection functions for overcurrent, overvoltage and overheating;
- High voltage pulse output is uniform and controllable;
- Super short circuit protection function, which can make high-voltage output work directly in short circuit to ground;
- With current and voltage dual 1.5 level pointer meter display, it is intuitive and clear, and the impact discharge process is clear.
- It has zero start protection and potentiometer zero output function, which is safe and reliable;
- Unique high voltage measurement design, under the stop state, the voltmeter can indicate the capacitor voltage in real time;

2) Equipment parameters

- Impulse high voltage: 0~35kV
- High voltage voltage division: voltage accuracy class 1.5
- Built in capacitance: 4 μF
- Discharge power: 2450J
- Impact time: 1~10 seconds

- Impact power: 400W (it can be customized)
- Over temperature protection: 85 ℃
- Working power supply: AC 220V ± 10% 50Hz ± 2Hz
- Ambient temperature: - 20~+50 ℃

3. RDCD-II/503D Cable Fault Locator

RDCD-II/503D Cable Fault Locator is to determine the location of cable fault point by acoustic-magnetic synchronization method. The electronic flashover generated by the high-voltage signal generator for cable test is picked up and amplified by the corresponding probe, and the accurate position of the fault point is determined by the auditory and visual judgment. The equipment that completes the accurate positioning of the cable fault point within the rough measurement range integrates acoustic magnetic time difference positioning technology, noise reduction technology, path auxiliary testing and other technologies, and provides various test modes and rich and varied prompt information to efficiently and accurately locate the cable fault.

1) Functional characteristics

- 5-inch touch high brightness LCD to ensure visibility in sunlight.
- Adopting acoustic magnetic synchronous positioning technology. Automatically calculate the acoustic magnetic time difference.
- The gain and trigger values of sound and magnetic signals can be manually adjusted to adapt to various environmental fixed-point settings.
- Equipped with background noise reduction technology, multiple filtering methods can be selected.
- Equipped with BNR background noise reduction and mute noise reduction functions.
- Equipped with path deviation indication.
- Equipped with multi-layer physical isolation signal sensors, with a waterproof rating of IP65.
- Equipped with a built-in high-capacity lithium battery, ultra long standby time, and a fast charger.
- Compact and lightweight, easy to operate, with a simple human-machine interface.

2) Equipment parameters

- Acoustic synchronous fixed-point function:

(1) Sound channel

Bandwidth: Full 100 Hz ~ 1600 Hz; Low pass: 100 Hz ~ 300 Hz;

High pass: 160 Hz ~ 1600 Hz; Band pass 200 Hz ~ 600 Hz.

Signal gain: 1 -8 adjustable.

Fixed point accuracy: 0.1m.

(2) Magnetic field channel: 1 -8 adjustable.

- Acoustic synchronous background noise reduction mode (BNR).
- The bar chart of sound intensity indicates that the threshold of sound trigger (0 ~ 99) can be adjusted.
- The bar chart of electromagnetic intensity indicates that the magnetic field trigger threshold (0 ~ 99) can be adjusted.
- Acoustic magnetic time difference method positioning mode: waveform display, acoustic magnetic time difference display.
- Power supply:

Battery: Built-in lithium-ion battery pack;

Use time: continuous use time > 8 hours;

Charger: input AC100 - 240V, 50/60Hz;

Charging time: < 6 hours.

- Operating environment temperature: -25℃-40℃, humidity 5-90% RH, altitude < 4500m.

4. RDCD-II/507 Pipeline Detector

RDCD-II/507 Pipeline Detector r uses the principle of electromagnetic induction to detect the precise direction and depth of underground cables, as well as to locate the open circuit, short circuit and skin fault points of cables. It can be used to find the path of cable (live or dead) and the fault of directly buried cable.

1) Functional characteristics

- Compass and direction display: visually display pipeline position and left-right direction.
- Tracking error prompt: Measure the current direction, and eliminate the interference of adjacent lines.

- Real-time depth and current measurement.
- All digital processing, stable and reliable.
- Compact, portable and light in weight.

2) Equipment parameters

- Transmitter:

  Operating frequency: low frequency, intermediate frequency, high frequency, radio frequency 50Hz

  Antenna mode: wave trough method (vertical coil) and wave crest method (horizontal coil)

  Sound indication: FM tone that varies with signal strength.

  Current indication: shows the effective current value of the cable under test (unit: mA)

  Operating temperature: -10℃ ~+55℃

  Battery: rechargeable battery

  Electric quantity indication: graphic display

  Signal strength: ladder diagram, digital range 0 ~ 999.

  Gain control: manual adjustment with a dynamic range of 100db.

  Detection depth: the maximum detection is not less than 10m.

  Maximum detection distance: the cable with good insulation can reach 15km in the direct connection method.

  Depth measurement: Press the depth key to display three digits, and the maximum measurable depth can reach 2.5 meters.

  Accuracy *: low frequency: (1 ~ 5) % ≤ 2.5m. Radio frequency: (5 ~ 12) % ≤ 2.5m.

  * depends on the site environment, the shape of the non-concentric line, the number of adjacent pipelines and the return current of the soil.

- Receiver:

  Operating frequency: low frequency, intermediate frequency, high frequency and radio frequency.

  Working modes: direct connection method, coupling method and induction method.

  Load: 5 Ω ~ 3,000 Ω

  Impedance display: five digits

  Over current: automatic protection

Output: low gear, middle gear and high gear

Battery: rechargeable battery

Operating temperature: -10℃ ~ 55℃