

CFL-32/1000st & CFL-32/2000st

Cable Test and Fault Locating System

- » Cable insulation testing with DC voltage up to 32 kV.
- » Fault conditioning (burning) with current up to 50 mA @ 32 kV.
- » Portable reflectometer with touch screen control TDR, ARC / ARC multi-shot, ICE and DECAV pre-location.
- » Surge generator up to 1024 (CFL-32/1000st) or 2048 J (CFL-32/2000st) with 0 ... 8 / 16 / 32 kV.
- » Surge levels switch (built in capacitor 32 μ f / 8 μ f / 2 μ F (CFL-32/1000st) or 64 μ f / 16 μ f / 4 μ F (CFL-32/2000st).
- » Advanced safety systems.

DESCRIPTION

High-voltage Surge Generator



The high-voltage surge generator can be used impulse discharge and withstand voltage test in low and high voltage cable fault test. High-precision test cable fault sampling waveform module and small transformer are installed inside, which can truly achieve the effect of not being damaged by impact, and it also has the functions of automatic timing impact, manual impact and withstand voltage test.

This device integrates a high-voltage DC source, an energy storage capacitor, a discharge ball device, an automatic discharge device, and a voltage level switching device into a cart-type high-end experimental instrument. It is a trolley-type high-end experimental instrument.

The high-voltage surge generator also has the function of zero-start protection, which can make the operation of the device safer and more reliable. It has super short-circuited protection function, which can make the high-voltage output work directly to the ground. With three-gear voltage range and capacitance capacity switching function, users can choose different equipment voltage adaption gears according to different cable voltage needs, making the test process easier.

Cable Fault Pre-locator



Cable Fault Pre-locator is a special instrument for measuring and analyzing power cable status and fault distance. It combines modern electronic technology and computer technology to realize signal filtering, acquisition, data processing, graphic display and graphic analysis to complete cable speed measurement, cable Length test, cable fault distance test.

This cable fault pre-locator adopts 12.1-inch industrial-grade computer control, windows operating system, touch operation mode, ultra-high brightness, large LCD screen display interface for user-friendly use, automatic continuous sampling, and real-time accurate waveform acquisition.

He adopts the latest technology of embedded industrial computer and the most advanced "eight pulse method" (multiple pulse method) testing technology, so that any high-resistance fault presents the simplest short-circuit fault waveform similar to low-voltage pulse features are easy to read. It also has the operation modes of shock high voltage flashover method and low voltage pulse method, which is convenient to detect various cable faults. The success rate of fault detection, test accuracy and test convenience are better than any domestic testing equipment.

*Power Cable Fault Pinpointer



Classic portable power cable fault pinpointer is designed with a microammeter display, with electrical level adjustment, frequency adjustment and volume adjustment knobs. By observing the swing of pointer on the microammeter, you can see the magnetic field strength during the flashover discharge at the fault point. Rotate the electrical level knob to adjust the reference of the magnetic field strength. In the process of path detection, adjusting the receiving frequency can make our ears hear the path signal that is easier to identify. Adjusting the frequency knob during the process of fault location can effectively avoid the radio signal. Adjust the volume during cable fault location and cable path finding, so that our ears hear a more appropriate sound signal.

He is very small and light, it is packed in a protective PVC case, easy to carry after the user finished detection.

Power cable fault locator has 3 working modes: turn off, fixed point, path. When the user is used for the precise location of the fault point of the cable, the working mode is adjusted to the fixed point. The path mode means that when the locator is used with the transmitter of the path meter produced by our company, it can be used as the receiver of the path meter. So, when you would like to detect cable path, the working mode can be adjusted to the path gear.

***Underground Cable Pipe Locator**



Underground cable pipe locator is mainly used for cable fault location, cable identification, cable path and depth measurement. It can complete tasks that could only be accomplished by a few sets of instruments in the past. The underground cable pipe locator is designed based on the electromagnetic induction method and the application of the communication principle.

1. The electromagnetic signal is generated by the transmitter, and the signal is transmitted to the underground cable under test through different transmission connection methods.
2. After the underground cable induces the electromagnetic signal, an induced current is generated on the cable, and the induced current propagates along the cable to the distance.
3. In the process of current propagation, electromagnetic waves are radiated to the ground through the underground cable. When the receiver detects on the ground, the electromagnetic wave signal will be received on the ground above the cable.
4. The position, direction and fault of the underground cable can be judged by the change of the received signal strength.

** Optional equipment as agreed with customer*

TECHNICAL SPECIFICATIONS:

High-voltage Surge Generator

Testing

Impulse high voltage	0...32 / 0...16 / 0...8 kV three gear adjustment
High voltage partial pressure	1.5 level
Built-in capacitor	2 μ F / 32 kV, 8 μ F / 16 kV, 32 μ F / 8 kV (CFL-32/1000st) 4 μ F / 32 kV, 16 μ F / 16 kV, 64 μ F / 8 kV (CFL-32/2000st) three-speed adjustment
Discharge power	both are 1024 J (CFL-32/1000st) or 2048 J (CFL-32/2000st)
Impact power	2000 W
Output voltage polarity	negative polarity
Impact time	about 5 seconds for automatic impact, arbitrary control time for manual impact
Over temperature protection	85 °C

General

Power supply	220 V AC + 10 %, 50 \pm 2 Hz (60 Hz can be customized)
Dimensions	534 x 444 x 805 mm
Weight	not more than 130 kg

Cable Fault Pre-locator

Sampling frequency	400 MHz
Minimum resolution	0.5 m (100 m/us)
Low voltage pulse width	0.2 μ S
Test blind zone	\leq 20 m
Ranging range	\leq 60 km
Measurement error	$\leq \pm (0.5 \% \times L + 1 \text{ m})$, L is the cable length
There are three test cable lengths	< 1 km (short distance); < 3 km (medium distance); > 3 km (long distance), (low-voltage pulse test amplitude: 400 Vpp)
Pulse coupler withstand voltage	DC 35 kV

General

Dimensions	430 x 380 x 220 mm (Cable fault tester) 430 x 380 x 220 mm (Pulse coupler)
Weight	10 kg
Working conditions	-25...+65 °C, 85 % RH, 750 \pm 30 mmHg

*Power Cable Fault Pinpointer

Magnification	500,000 times
Detection depth	more than 10 meters
Positioning accuracy	±0.2 m
Output impedance	350 Ohm
Quiescent current	<10 mA

General

Power supply	two standard 9 V batteries
Continuous operation	more than 20 hours
Working conditions	-25...50 °C, ≤ 90 % RH

*Cable Route Tracer

Transmitter

Working frequency	low frequency (815 Hz), intermediate frequency (8 kHz), high frequency (33 kHz), radio frequency (83 kHz)
Working mode	direct connection method, coupling method (caliper method), induction method
Matching load	5...3000 Ohm
Impedance display	5 digits
Overheating and over current	automatic protection
Power output	low gear, middle gear, high gear

Receiver

Working frequency	low frequency (815 Hz), intermediate frequency (8 kHz), high frequency (33 kHz), radio frequency (83 kHz), passive frequency 50 Hz
Antenna mode	valley method (zero value mode), crest method (peak mode), step voltage method and clamp current method (A-frame)
Detection depth	is not less than 5 meters
Maximum detection distance	up to 15 km in the direct connection method
Depth measurement	up to 10 meters
Accuracy	Low frequency: $\pm(1 - 5) \% \leq 2.5 \text{ m}$ Radio frequency: $\pm(5 - 12) \% \leq 2.5 \text{ m}$
Gain control	manual adjustment, dynamic range of 100 dB
Signal strength indication	ladder diagram, digital range 0 – 999
Battery life	continuous work > 8 hours, intermittent work > 16 hours