CFL-32/1000ex and CFL-32/2000ex

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 DECAY pre-location.
- Surge generator up to 1024 (CFL-32/1000ex) or 2048 J (CFL-32/2000ex) with 0 ... 8 / 16 / 32 kV.
- Surge levels switch (built in capacitor 32 µf / 8 µf / 2 µF (CFL-32/1000ex) or 64 µf / 16 µf / 4 µF (CFL-32/2000ex).
- 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.

*Cable Fault Pinpointer

Cable fault pinpointer is housed in a high-quality PVC protective case, portable and lightweight. The whole set is equipped with a 7-inch large-screen signal generator, touch operation, convenient and fashionable, with high-quality stereo headphones, which are very comfortable to wear, and can clearly hear the discharge sound of the fault point without hurting the ears. Its probe is made of black aluminum alloy, the whole body is very textured, and there is a certain sense of weight in the hand, which is very suitable for on-site detection.

Cable fault pinpointer is suitable for low-resistance, open-circuit disconnection faults, high-resistance leakage, short-circuit and high-resistance flashover of power cables, high-frequency coaxial cables, street light cables, buried wires of various materials with different cross-sections and different media Sexual failure.

It adopts the acoustic-magnetic synchronization method to pinpoint the fault, which is a very accurate and unique pinpointing method. When the high-voltage generator shocks and discharges the faulty cable, the sound produced by the discharge at the fault point is transmitted to the ground, and the sound signal is picked up by the high-sensitivity probe. After being amplified and monitored by earphones, you can hear the "pop" sound. At the same time, the built-in probe of the probe receives the magnetic field signal in real time, using the principle that the propagation speed of the magnetic field is much higher than the speed of sound propagation, and judges the distance of the fault point by detecting the time difference between the electromagnetic signal and the sound signal. Move the sensor position continuously to find the point with the smallest time difference between the acoustic-magnetic and the magnetic field, then the accurate position of the fault point is below it.

***Cable Route Tracer**

Cable route tracer is mainly used for cable fault location, cable identification, cable path and depth measurement, can quickly and effectively determine the direction and depth of underground metal pipelines. With signal strength indication, left and right arrow indication, compass direction indication, the maximum depth of the detection pipeline can be up to 20 meters. Automatic prompt 70% sounding method can easily determine 70% signal points through graphics and prompt sounds.

1) Automatic sounding: When the instrument is placed above the pipeline, the true depth of the target pipeline will be automatically displayed.

2) Signal identification: accurate identification of cables from the three dimensions of signal amplitude, signal direction and signal phase.

3) Current direction indicator: can track the current direction and phase of the signal, effectively improve the accuracy of finding the path.

** 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 μF / 32 kV, 8 μF / 16 kV, 32 μF / 8 kV (CFL-32/1000ex) 4 μF / 32 kV, 16 μF / 16 kV, 64 μF / 8 kV (CFL-32/2000ex) three-speed adjustment
Discharge power	both are 1024 J (CFL-32/1000ex) or 2048 J (CFL-32/2000ex)
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 ℃

General	
Power supply	220 V AC + 10 %, 50 ± 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 uS
Test blind zone	≤ 20 m
Ranging range	≤ 60 km
Measurement error	≤ ± (0.5 %×L + 1 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 ℃, 85 % RH, 750 ± 30 mmHg

Cable Fault Pinpointer

Sound channel-Bandwidth:	
▸ All-pass	100…1500 Hz
▸ Low pass	100…400 Hz
▸ High pass	150…1500 Hz
▸ Band pass	200…600 Hz
Signal gain	adjustable from 0 to 7
Fixed point accuracy	0.1 m
Magnetic field channel	adjustable from 0 to 7
Background noise reduction mode	BNR
Sound signal	intensity bar graph indication, sound trigger threshold (0-100 files) is adjustable
Electromagnetic signal	intensity bar graph indication, magnetic field trigger threshold (0-100 files) adjustable
Acoustic-magnetic time difference positioning mode	waveform display, acoustic and magnetic time difference display
Path Aid Test	the path direction is indicated by icons to the left and right of the cable
Display	7-inch color LCD, 1024×600 resolution, with touch function

General

Power supply:	
▸ Battery	lithium-ion battery pack, 8.4 V, 4.4 Ah
▸ Continuous use time	> 8 hours
▸ Charger	220 V AC ± 10 %, 50/60 Hz
▸ Charging time	<6 hours
Dimensions (with PVC case)	479 x 387 x 210 mm
Weight	6.7 kg
Working conditions	-25…40 ℃, 5…90 % RH, altitude <4500 m

Cable Route Tracer

Transmitter

Optional frequency (31 kinds of frequency sinusoidal AC signal)	98/ 128/ 256/ 480/ 491/ 512/ 577/ 640/ 815/ 982 HZ 1,02/ 1,17/ 1,45/ 1,52/ 4,1/ 8,01/ 8/ 8,44/ 9,5/ 9,82/ 29,4 / 33/ 38/ 65,5/ 78,1/ 80,43/ 82/ 83,1/ 89/ 133/ 200 kHz
Mode	fault detection and identification signal positioning mode, sound transmission mode, current direction signal SS Low, SS High
Functions	ohmmeter, intelligent signal identification phase
Signal transmission methods	direct connection, coupling and induction method
Display content	frequency setting, battery status, digital display output current and loop resistance, output mode, external power supply, external voltage warning
Output power	low-grade, mid-grade, high-grade and full-grade is adjustable
The maximum output current	1 A
The maximum output power	not less than 12W
Dimensions	400×150×130 mm

Receiver

Available frequencies (10 kinds)	50 / 60 / 577 Hz, 8 / 33 / 82 / 133 kHz current direction signal SS Low, SS High personalized customization (within 100 Hz…200 kHz)
Display modes	wide peak value, valley value, narrow peak value, wide peak value arrow, and peak value plus valley value
Depth range	0…20 m
Accuracy	±5 % (within 3 m) / ±10 % (within 8 m)
Functions	compass guidance, signal identification phase
Current direction indication	it can track the current direction and phase of the signal, effectively improving the accuracy of the search path
Signal identification	accurate identification of optical cables and cables from the three dimensions of signal amplitude, signal direction and signal phase
Display	3.5-inch 24-bit color LCD
Dimensions	290×130×670 mm

General

Dimensions (case)	780 x 350 x 230 mm
Weight (general)	15 kg