

Comprehensive Electrical Safety Analyzer AN9636HC(F)/AN9637HC(F)/AN9637HC8(F)



Product Overview

Ainuo Instrument Co., Ltd has been dedicated to the research and development of electrical safety analyzers for over 30 years, and has participated in drafting 16 national standards and industry calibration regulations for safety analyzers. The AN963XHC(F) Series Comprehensive Electrical Safety Analyzer has the characteristics of complete functions, high performance, automation, and informatization, providing comprehensive safety test solutions for various electrical products.

Features

- Five-in-one:** ACW/DCW/IR/ACGB/DCGB
- High performance:** 1% basic accuracy for safety tester, ARC test, GUARD/RETURN mode
- Automation:** RS232/LAN/USB/BARCODE/IO/ALARM interfaces
- Informatization:** barcode scanning and automatic recognition, optional ESRS measurement and control software

Applications

- Audio and video, information technology, and communication technology equipment (GB4943.1/ IEC62368-1)
- Safety requirements for electrical equipment for measurement, control, and laboratory use (GB4793.1/IEC61010-1)
- Safety Requirements of traction battery used by electric vehicles (GB38031-2020)
- Safety requirements of secondary lithium cells and batteries used in electrical energy storage systems (GB44240-2024)
- Technical requirements for power conversion system of electrochemical energy storage system (GBT34120-2023)
- Electric vehicle conductive charging system (GB/T18487.1)
- Terrestrial photovoltaic (PV) modules - Design qualification and type approval (IEC61215-1-2021)
- Technical specifications of junction box for terrestrial solar-photovoltaic modules (GB/T 37410-2019)
- Technical requirements for photovoltaic grid-connected inverter (GB/T37408-2019)
- General principles low voltage switchgear and controlgear Part 1 (GBT14048.1/IEC60947-1)

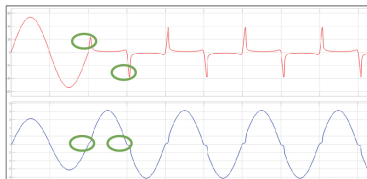
Specifications

Model Function	AN9636HC(F) ACW/DCW/IR	AN9637HC(F) ACW/DCW/IR/GB	AN9637HC8(F) ACW/DCW/IR/GB
AC withstand voltage (ACW)	5kVac/100mA (optional 200mA)		
DC withstand voltage (DCW)	6kVdc/20mA		
Insulation Resistance (IR)	6kVdc/50GΩ		
AC ground bond resistance (GB)	None	40Aac/600mΩ	
DC ground bond resistance (DCGB)	(Optional 40A, 60A, 100A card)		
Multiple cards	Optional multi-channel ACW/DCW scanning card, multi-channel GB scanning card, and DC low resistance card; (When more than one card is inserted, additional 1U chassis height shall be added for each additional card, and 2U height for 100A DCGB card)		Standard 5W3G card
Operation interface	Color LCD, numeric keypad, RS232/PLC/USB/LAN (optional) interface;		
Informatization	USB storage, barcode recognition and automatic program matching, optional ESRs measurement and control software which can be integrated with MES system		
Dimensions (W×H×D mm)	426×132×520		

Flashover and arc

In relevant electrical safety regulations and standards, the general requirement for determining electrical strength test is that under the specified test voltage and test time conditions, the insulator should not experience breakdown or flashover. The destructive discharge along the surface of an insulator is called flashover, while the destructive discharge along the interior of the insulator is called breakdown. Arc is gas discharge phenomenon, where instantaneous spark is generated when current passes through certain insulating media (such as air).

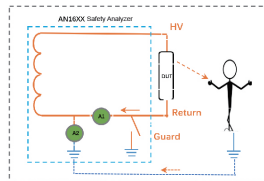
The series analyzer has arc detection function (ARC), arc levels of 0~9 can be set in ACW and DCW, to detect flashover or arc discharge during ACW/DCW test process.



Current and voltage waves of pure resistive arc discharge

Protective design for operator safety

- When the Interlock control is enabled, this signal can be used as a detection signal for personnel entering the safety test area or for open grid gate of the test bench. Once the analyzer detects circuit break in this signal, the output will be stopped and the test cannot be started.
- DUT grounding. This series analyzer has two modes: DUT case grounding (Guard) or floating grounding (Return). When selecting Guard mode, the Return terminal of the analyzer will maintain safe conductive state with PE to prevent operators from accidentally touching the DUT housing and getting electric shock during ACW/DCW test process. In this mode, stray leakage current through the ground will pass through ammeter A1, causing higher leakage current and lower insulation resistance.
- Leakage protection GFI. When the leakage current of high-voltage output HV leaks to the safe PE terminal through the operator or DUT housing, the leakage current will be detected by ammeter A2. When it exceeds the limit, the analyzer will stop the high-voltage output and trigger GFI alarm.



Multiple optional cards



DC low resistance card
(0.1-20k Ω)



DCGB resistance card
(40/60A/100A)



5-channel high-voltage 3-channel
GB scanning card



8-channel high-voltage
scanning card



8-channel GB scanning
card