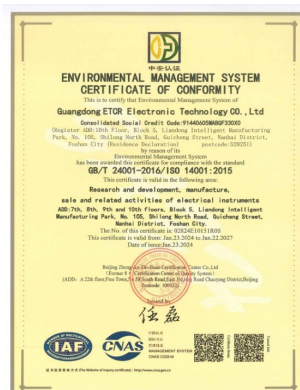


Company Profile

Guangdong ETCR Electronic Technology CO., LTD., established on September 28, 2006, is a high-tech enterprise integrating research and development, manufacturing and sales, application services together. is participate and formulate enterprise of national metrological verification regulations: JJG1054-2009 [clamp grounding resistance meter]. We are committed to providing customers with intelligent electrical power testing instruments, and power quality remote online monitoring solutions. Our main products include clamp grounding resistance tester, three phase unbalance correctting device, grounding resistance online tester, non-contact phase detector, wireless high voltage phase detector, high accuracy leakage current meter, high voltage clamp current meter, double clamp phase voltmeter, three phase voltmeter and power quality analyzer etc. Our products are widely used in electric power, communications, military, petroleum, chemical, meteorological, railway and industrial and mining enterprises and other fields.

Our company has a high-level technical research and development team, product research, development and manufacturing are actively following and accordancing with the international electrical commission IEC1010 standard, focus on developping safe, durable and accurate of high-end digital detect products, and continuously upgrade and improve the existing products, each of our products have independent intellectual property rights. Our company has an effective management team, and employs experienced technical and management personnel, to ensure our products with leading technology and quality. After years of unremitting efforts and pursuit, company has become a well-known brand in China. Company participated in the formulation of the national standard JJG1054-2009 [clamp grounding resistance meter], and has more than 10 national patents of clamp earth resistance tester. Company has attained ISO9001:2015 quality management system certification, measuring instrument manufacturing license certification, product quality is guaranteed, the performance improved year by year, won the trust and appreciation of general customers.



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ETCR1000C/1000D Non-contact Phase Sequence Detector



Product Function

Phase sequence detection (positive phase, anti-phase, default phase), live line inspection, simple electrical inspection, fire line identification, default phase judgment, broken line location search, DC line breakpoint detection, line maintenance.

Product Feature

1. Adopt clamp type non-contact induction measurement, no need to peel off the cable skin, no need to contact the high voltage bare live wire. The phase sequence can be detected by directly clamping three ultra-induction and high insulation clamps on the insulation skin of three-phase fire wire respectively.
2. Non-contact measurement, safe and fast, increase productivity.
3. Dynamic acousto-optic display the positive phase or anti-phase state of three-phase power phase sequence, clear at a glance.
4. 4pcs magnets are installed on the bottom plate of the instrument, which can be attached to the metal shell of the equipment in the test, convenient to operate.

Technical Specification

Model	ETCR1000C	ETCR1000D
Available Clamp Wire Size	ø1.6mm~ø16mm	ø10mm~ø40mm
Meter Weight	About 0.33kg (include accessories)	About 0.36kg (include accessories)
Power Supply	DC 3V alkaline dry batteries (LR6 1.5VX2PCS)	
Live Power Range	AC 70V~1000V, 45Hz~65Hz (Sine Wave Continuous Input)	
LED Display	[Positive Phase] The phase detector lamp lights up clockwise [Reversed Phase] The phase detector lamp lights up counterclockwise [Live Power] L1, L2, L3 lamps light up in setting voltage range [Default Phase] L1 or L2, or L3 lamp is not lighting [Open Circuit] L1 or L2, or L3 lamp is not lighting	
Buzzer	[Positive Phase] the buzzer sounds intermittently [Reversed Phase] the buzzer sounds continuously	
Battery Check	The POWER indication lamp light up after starting up, and the LOW BATTERY lamp light up when low battery	
Magnet	4pcs magnets are installed on the bottom plate of the instrument, which can be attached to the distribution box, load weight 800g	
Auto Shutdown	5 minutes without any operation after starting up, the meter will automatically shutdown	
Meter Dimension	70mmX75mmX30mm	
Max Measure Voltage	AC 1000V	
Insulation Strength	5.4kVrms	
Max. Rated Power	300mVA	
Accessories	Meter:1PCS; Meter bag:1PCS; Lanyard: 1PCS; LR6 battery: 2PCS	

ETCR1400 Overhead Line Ground Fault Detector



Product Function

Apply for single-phase ground fault detection of overhead high-voltage lines, and accurately locates the ground fault point. Accurately search hidden ground faults of overhead line such as single-phase metallic grounding, arcing grounding, transition resistance grounding, insulator breakdown, and lightning arrester breakdown, etc.

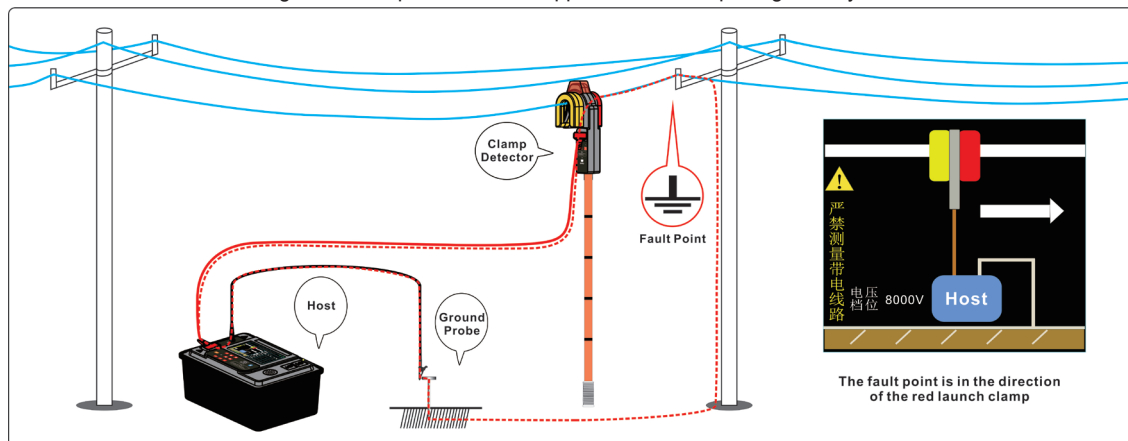
Product features

1. Innovative integrated the signal transmission and acquisition in a detection clamp. The clamp-shaped structure is convenient for detecting. The line fault test can be completed in once clamp detecting, which is no need to output and acquisition signal operations in two sites, and no need to disconnect the PT(phase voltage transformer). The detection is convenient and fast, reduce the number of operators and improving work efficiency.
2. The detection clamp is equipped with th non-contact electroscop. If the tested line is electrified, the detector will issue a light alarm, and the host will broadcast a voice prompt to ensure the safety of operators and equipment.
3. Especially suitable for faulty lines with cable branches. Strong short-circuit detection ability, which can detect the direct short-circuit fault of 0Ω grounding resistance.
4. The output voltage is up to 8000V, and there are two options of 8000V and 3000V to meet the different request of users.
5. Equip with the large-capacity rechargeable battery, can complete the detection of the entire overhead line after being fully charged.
6. The detection speed is fast, and the test results can be obtained in a few seconds after hooking up the detector.
7. 7-inch color screen can display the fault direction is obvious and clear.
8. With Voice broadcast function, prompt fault direction.
9. With Bluetooth communication function, the communication distance up to 40m. After download and install the APP, can make the test and view the test results on the mobile phone, which can use as a handheld receiver.

Test Principle

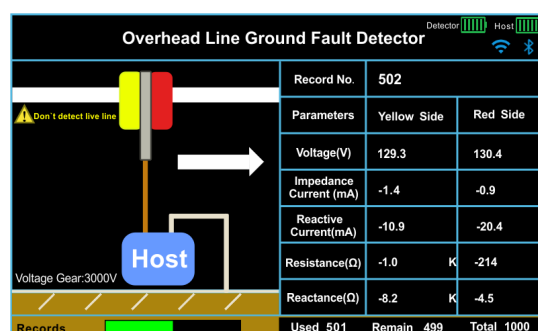
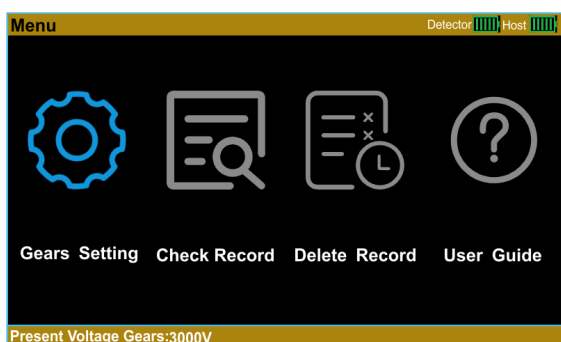
After the overhead line is stop working, the host of tester outputs low-frequency high-voltage signals, and the transmitting clamps on the left and right sides of the detection clamp apply AC voltage signals to the line respectively, and the high-sensitivity current transformer in the middle of the detection clamp detects the current amplitude and phase on both sides. The current passes through the host, the detection clamp, flows through the fault line, enters the ground at the ground fault point, and returns to the host through the ground pin.

The output of the instrument is a high-voltage AC signal. The distributed capacitance and the fault grounding resistance form an RC parallel circuit. By detecting the voltage and current signals on both sides of the line and the phase between the voltage and the current, can judge whether the present load is a capacitive or inductive, and compare the magnitude of the resistive and impedance on the left and right to confirm whether the ground fault is on the left or right. Hook up the detection clamps on the line one by one along the line, and the hand-held receiver indicates the direction of the ground fault point, so as to approach the fault point gradually.



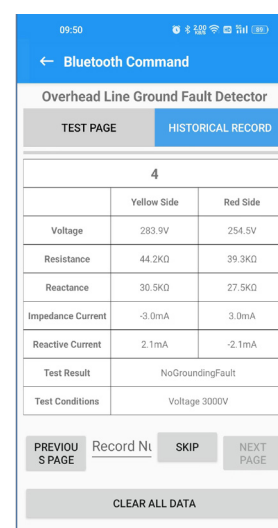
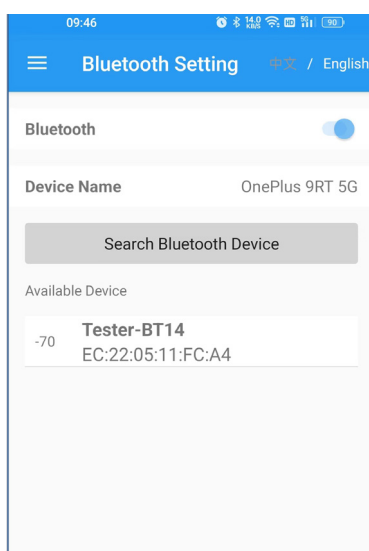
Host Test Interface

7-inch color screen, which can display clearly: fault indication direction, field test parameters, historical test records, battery power, communication status, operation methods.



Bluetooth APP Test Interface

Equip with Bluetooth communication function which supports Android system. After scanning the QR code to install the APP program, can test and view the test results on the mobile phone, which is very convenient for using on-site.



Technical Specifications

Power Supply	Host: 14.8V, 5200mAh Rechargeable lithium battery; Detector clamp: 3.7V, 2600mAh Rechargeable lithium battery
Detection Method	Clamp type CT
LCD	7-inch color screen, size: 153.8mmX85.6mm
Output Voltage	AC 3000V/8000V
Output Frequency	50Hz
Output Current	≤50mA
Ground Fault Resistance	≤150kΩ
Line Reactance	≤30MΩ
Clamp Size	Φ36mm
Electricity Testing & Alarm	Detect whether the tested cable is live or not, and sound and light alarm will be issued when it is live.
Voice Broadcast Function	Yes
Wireless Communication Distance	433MHz, 50M (open environment)
Bluetooth Communication Distance	40M (open environment)
Data Upload	The host equip with USB prot, can upload the test data
Detector Size	Host: 355mmX272mmX164mm; Clamp Detector: 297mmX118mmX94m
Detector Weight	Host: 7.61KG; Clamp Detector: 785g; Total weight:17.4KG(include insulation rod)
Auto Shutdown	15 minutes after power on, will automatic shutdown without any operation
Battery Power	Display the battery capacity of the host and the detector
Working Temperature & Humidity	Temperature: -20 C ~70 C , Humidity: 5~90% RH
Insulation Rod Length	About 4300mm
Accessories	Host:1PCS, Clamp detector: 1PCS; High voltage test line: 1PCS; Ground line: 1PCS; Ground Probe: 1PCS; Communication data cable: 1PCS; Charger:2SETS; Instrument case: 1PCS; Telescopic insulation rod:1PCS; Tool bag: 1SET

ETCR1500 Wireless High Voltage Phase Detector



Product Function

Applied to electric power lines below 500kV, high voltage switchgear (metalclad withdraw switchgear, ring main unit, etc.) or substation phase detecting, phase test, phase sequence judgment and electricity inspection, etc.

Product features

1. Adopt wireless transmission technology, phase detecting distance 200m, phase detecting accurately, operation convenient.
2. Voice prompt: "X signal is normal, Y signal is normal, same phase, out phase"
3. Adopt 3.5inch LCD color screen can display the phase, frequency, phase sequence, and phase detecting results on the same screen. The dynamic vector diagram indication, clear and obvious.
4. The meter also has electricity inspection function, can display the voltage class.
5. Data storage function, can store 200 groups of data. USB interface with data upload function, storage data can be uploaded to the computer, save and print.

Technical Specification

Power Supply	Host: 3.7V 2600mAh, rechargeable lithium battery; Detector: 3.7V 1000mAh, rechargeable lithium battery
Phase Detection Method	1. Contact mode phase detecting: circuit line below 110kV 2. Non-Contact mode phase detecting: when $10kV \leq \text{line voltage} \leq 110kV$, can phase detecting on the cable insulation skin. when the line voltage $> 110kV$, must adopt non-contact mode to testing
Phase Detection Voltage	AC 10V ~ 500kV
phase detection distance	200m
Voice Prompt	"X signal is normal, Y signal is normal, same phase, out phase".
Phase Qualitative	Same phase: $-20^{\circ} \sim 20^{\circ}$; out phase: $100^{\circ} \sim 140^{\circ}$ and $220^{\circ} \sim 260^{\circ}$
Phase Range	$0^{\circ} \sim 360^{\circ}$; accuracy: $\leq \pm 8^{\circ}$; resolution: 1°
Frequency Range	45.0Hz~65.0Hz; accuracy: $\leq \pm 2Hz$; resolution: 0.1Hz
Electricity Test indication	"du-du-du" buzzing sound
Voltage display	Display voltage class
Transmitting Frequency	433MHz
Phase Indication	Vector diagram and digital display
Data Storage	200 groups (Power down or replace the battery will not lose data)
Automatic Shutdown	15 minutes after boot up, the meter shuts down automatically without any operation
Battery Voltage	The host battery shows the power level of 4 cells. When there is only 1 cell or 0 cell, please charge; when the indicating light of the detector flashes quickly, means that the battery voltage is low, please charge.
Rated Current	Detector: 30mA max; Host: 150mA max
LCD Size	3.5 inch color display; display area: 71mmX53mm
Instrument Weight	Total weight: about 7.53kg (include all accessories)
Instrument Dimension	Host: 195mmX100mmX45mm; Detector: 130mmX65mmX45mm
Insulation Rod Length	4300mm
Insulation Test	The insulation rod stretched to both ends: AC 220kV/rms; host, detector: AC3700V/rms (between exposed metal and plastic shell)
Accessories	Host:1PCS, Detector:2PCS, Probe:2PCS, Probe Hook:2PCS, Insulation Rod:2PCS, Software CD:1COPY, USB Data Cable/ Charge Cable: 2PCS, Charger Adaptor: 2PCS, Inspection Cable:1PCS, Ring cabinets test line :1PCS; Cloth bag :1PCS

ETCR1500A Remote Wireless High Voltage Phase Detector



Product Function

Applied to electric power lines below 500KV, high voltage switchgear (metalclad withdraw switchgear, ring main unit, etc.) or substation remote phase detecting, phase test, phase sequence judgment and electricity inspection, etc.

Product Feature

1. Adopt satellite timing service wireless transmission technology, phase detecting distance 5000M, High accuracy of timing service, phase detecting accurately, operation convenient.
2. Voice prompt: "X signal is normal, Y signal is normal, same phase, out phase"
3. Adopt 3.5inch LCD color screen can display the phase, frequency, phase sequence, and phase detecting results on the same screen. The dynamic vector diagram indication, clear and obvious.
4. The meter also has electricity inspection function, can display the voltage class.
5. Data storage function, can store 200 groups of data.

Technical Specification

Power Supply	Host: 3.7V 2600mAh, rechargeable lithium battery; Detector: 3.7V 1000mAh, rechargeable lithium battery
Phase Detection Method	1. Contact mode phase detecting: circuit line below 110kV 2. Non-Contact mode phase detecting: when 10kV≤ line voltage≤110kV, can phase detecting on the cable insulation skin. when the line voltage > 110kV, must adopt non-contact mode to testing
Phase Detection Voltage	AC 10V~500kV
Satellite Phase Detecting Distance	5000m
Normal Phase Detecting Distance	200m
Voice Prompt	"X signal is normal, Y signal is normal, same phase, out phase".
Phase Qualitative	Same phase: - 20°~ 20°; Out of phase: 100°~140° and 220°~ 260°
Phase Range	0°~ 360°; Accuracy: ≤±10°; Resolution: 1°
Frequency Range	45.0Hz~65.0Hz; Accuracy: ≤±2Hz; Resolution: 0.1Hz
Electricity Test Indication	"du--du--du" buzzing sound
Voltage Display	Display voltage class
Transmitting Frequency	433MHz
Phase Indication	Vector diagram and digital display at the same time
Satellite Timing Service Accuracy	<20nS
Search Satellite Indication	When searching satellite, dynamic display"----" symbol
Data Storage	200 groups (Power down or replace the battery will not lose data)
Automatic Shutdown	15 minutes after boot up, the meter shuts down automatically without any operation
Rated Current	Detector: 30mA max; Host: 150mA max
LCD Size	3.5 inch color screen; Display area: 71mmX53mm
Instrument Weight	Total weight: about 7.79kg (include all accessories)
Instrument Dimension	Host: 195mmX100mmX45mm; Detector: 130mmX65mmX45mm
Insulation Rod Length	4300mm
Accessories	Host :2PCS, Detector: 2PCS, Pin Probe: 2PCS, Hook Probe: 2PCS, Insulation Rod: 2PCS, 4in1 Charge Cable: 1PCS, Charger Adaptor:1 PCS, Inspection Cable:1PCS, Ring Main Unit Test Line: 2PCS, Wireless Antennae: 1SET; Tool Bag: 1PCS

ETCR1520 Wireless Phase Detector For Ring Main Unit



Product Function

Apply for ring main unit phase detecting of power distribution system and phase, frequency, phase sequence test.

Product Feature

1. Adopt wireless transmission technology, phase detecting distance 30 meters, phase detecting accurately and operation convenient.
2. Voice prompt: "X signal normal, Y signal normal, same phase, out phase"
3. Adopt 3.5 inch LCD color screen, which can display the phase, frequency, phase sequence, and phase detecting results on the same screen. The dynamic vector diagram indication, clear and obvious.
4. With data storage function, can store 200 groups of data. With USB interface and data upload function., stored data can upload to computer, save and print



Technical Specification

Power Supply	Host: 3.7 V, 2600mAh rechargeable lithium battery; Detector: 3.7 V, 1000mAh rechargeable lithium battery
Phase Detecting Voltage	AC 1V~600V
Phase Detecting Distance	30m
Voice Prompt	"X signal normal, Y signal normal, same phase, out phase".
Phase Qualitative	Same phase: - 20°~20°; Out of phase: 100°~140° and 220°~260°
Phase Range	0°~360°; Accuracy: $\leq \pm 8^\circ$; Resolution: 1°
Frequency Range	45.0Hz~65.0Hz; Accuracy: $\leq \pm 2\text{Hz}$; Resolution: 0.1Hz
Transmitting Frequency	433MHz
Phase Indication	Vector diagram and digital display at the same time
Data Storage	200 groups (Power down will not lose data)
Automatic Shutdown	15 minutes after boot up, the meter shuts down automatically without any operation
Battery Voltage	The host battery shows the power level of 4 cells. When there is only 1 cell or 0 cell, please charge; when the indicating light of the detector flashes quickly, means that the battery voltage is low, please charge.
Rated Current	Detector: 30mA max; Host: 150mA max
LCD Size	3.5 inch color screen; Display area: 71mmX53mm
Weight	Host: 750g (include battery)
Instrument Dimension	Host 195mmX100mmX45mm; Detector: 120mmX54mmX30mm
Working Temperature And Humidity	-10°C ~ 40°C ; below 80%RH
Store Temperature And Humidity	-10°C ~ 60°C ; below 70%RH
Protection Level	IP63
Suitable Safety Standard	It meets the standard of GB13398-92, GB311.1-311.6-8, 3DL408-91, and the national power industry standard requestment (general technical conditions DL/T 971-2017 for 1kV ~ 35kV portable nuclear phase devices for live working).
Insulation Test	Host, detector: AC3700V/rms (between the exposure metal and plastic shell)
Accessories	Host: 1PCS, Detector :2PCS, USB Data Cable/ 3in1 Charge Cable: 2PCS, Charger Adaptor: 1PCS, Cloth Bag: 1PCS, Alligator ClipX 2PCS

ETCR1600 Wireless High Voltage Phase Detector



Product Function

.Apply to power lines or substations below 220kV for electricity inspection, phase detecting, phase testing, phase sequence judgment, electricity inspection, etc.

Product Feature

- 1.Wireless transmission, transmission distance 60M, easy to operate.
- 2.Voice prompt: "X signal is normal, Y signal is normal, same phase, out phase".
- 3.The 3.5-inch LCD color screen can display the phase, frequency, phase sequence, and phasing results on the same screen. The dynamic vector diagram indication, clear and intuitive.
- 4.Data storage function, can store 9999 groups of data. USB interface with data upload function, storage data can be uploaded to the computer, save and print.

Technical Specification

Power Supply	Host: DC9V, alkaline battery LR6X 6PCS; Detector: zinc-manganese dry battery 6F22, 9V
Phase Detection Method	1. Contact type phase detecting: Power line below 35KV 2. Non-Contact mode phase detecting: the bare wire line voltage exceeds 35kV, must adopt non-contact mode to testing, the probe gradually approach the conductor to phasing detecting.
Transmission Distance	Wireless transmission, straight-line transmission distance about 60M
Phase Characterization	1.Same Phase: $-25^{\circ}\sim 25^{\circ}$; 2.Out Phase: $95^{\circ}\sim 145^{\circ}$ and $215^{\circ}\sim 265^{\circ}$
Phase Detection Voltage	220V~220kV
Phase Range	$0.0^{\circ}\sim 360.0^{\circ}$; Accuracy: $\leq \pm 12^{\circ}$; Resolution: 0.1 $^{\circ}$
Frequency Range	45.0Hz~65.0Hz; Accuracy: $\leq \pm 2$ Hz; Resolution: 0.1Hz
Transmitting Frequency	433MHz, 315MHz
LCD Size	3.5inch Color Display; Display area: 71mmX53mm
Phase Indication	phasor diagram and digital display
Working Indication	Phase detector with sound and light indication function, red double flash indicator and "beep - beep - beep" buzzing sound.
Display Speed	2 Times/Second
Data Storage	9999 groups (Power down or replace the battery will not lose data)
Automatic Shutdown	15 minutes after boot up, the meter shuts down automatically without any operation
Battery Voltage	When battery voltage is lower than $7.2V \pm 0.1V$, low battery voltage symbol will display and remind to replace battery. The measurement data still are also accurate at this time
Rated Current	Detector: 30mA max; Host: 150mA max
Weight	About 6.85kg(include accessories)
Dimension	Host: 195mmX100mmX45mm; Detector: 290mmX250mmX80mm
Insulation Rod Length	4300mm
Insulation Test	The insulation rod stretched to both ends: AC 220 kV / rms Host, detector: AC3700V / rms (between exposed metal and plastic shell)
Suitable Safety Standard	GB13398 - 92, GB311.1 - 311.6 - 8, 3DL408 - 91, 《General technical requirements for portable nuclear power apparatus for use in 1kV ~ 35kV portable power plants DL/T971-2005》 IEC61481 - A2; 2004; IEC 61243 - 1 ed.2:2003
Accessories	Host:1PCS; Detector: 2PCS; Pin probe: 2PCS; Hook probe: 2PCS; Insulation Rod: 2PCS; USB data cable: 1PCS; Inspection line:1PCS; Tool bag: 1PCS; LR6 battery: 6PCS; 6LR61 battery: 2PCS

ETCR1800A/1800B Wireless High Voltage Electroscope


Product Function

380v ~ 220kV high voltage line electricity test, high voltage line voltage to ground test, induction voltage test, high voltage line current test.

Product Feature

1. Hang the detector on the high voltage line with insulation rod, and then can be electricity tested and displayed.
2. High voltage line voltage and current test. Safe and fast, essential tools of power transmission line maintenance.
3. Below 220KV full voltage level coverage, no need to be equipped with many electroscopes.
4. Wireless transmission, audible and visible alarm function and data upload function.

Technical Specification

Model	ETCR1800A	ETCR1800B
Function	Wireless high voltage electricity test, high voltage line voltage test	Wireless high voltage electricity test, high voltage line voltage and current test
Voltage level display	380V, 6.6kV, 10kV, 35kV, 66kV, 110kV, 220kV	380V, 6.6kV, 10kV, 35kV, 66kV, 110kV
Voltage to Earth Display Range	0.1kV~150kV(Voltage to earth)	0.1kV~69kV(Voltage to earth)
Electricity Test Range	380V~220kV	380V~110kV
Power Supply	Host: DC6V Alkaline dry battery (LR03 1.5VX4PCS); Detector: DC9V, alkaline dry battery (6LR61 9V)	
Wireless Frequency	433Hz	
Wireless Transmission Distance	Straight-line transmission distance about 30M	
Voltage to Earth Display Accuracy	±15%rdg±5dgt	
Line Voltage Display Accuracy	±15%rdg±5dgt	
Current Test (only B model)	Range: 0.1A~6000A; Accuracy: ±3%±5dgt; Resolution: 0.1A	
Probe Length (only A model)	110mm	
LCD Size	47mmX28.5mm (with backlight)	
Electricity Test Indication	In electricity test, the detector with sound and light indication function, red double flash indicator and "beep - beep - beep" buzzing sound.	
Display Speed	2 Times/Second	
Data Storage	99 groups (Power down or replace the battery will not lose data)	
Automatic Shutdown	10 minutes after boot up, the meter shuts down automatically without any operation	
Low Battery Voltage Indication	When the detector battery voltage is lower than 7.2V±0.1V, the green power indicator flashes; when the receiver voltage lower than 4.8V±0.1V, low battery voltage symbol "  " will display and remind to replace battery.	
Rated Current	Detector: 75mA max; Receiver: 35mA max	
Hook Caliber	φ50mm (ETCR1800A); φ60mm (ETCR1800B)	
Instrument Dimension	Receiver: 78mmX165mmX42mm; Detector: 300mmX237mmX85mm	
Instrument Weight	About 6KGS(include accessories)	
Insulation Rod Length	Max Diameter:Ø45mm; Length: Contraction state 850mm; Stretched state 4300mm	
Accessories	Detector:1PCS; Receiver: 1PCS, Hook probe: 1PCS; Pin probe: 1PCS(only for A model); Insulation Rod: 1PCS; USB LR03 battery: 4PCS; 6LR61 battery: 1pcs; communication cable:1PCS; Tool bag: 1PCS	

ETCR1810 AC/DC Voltage Detector



Product Features

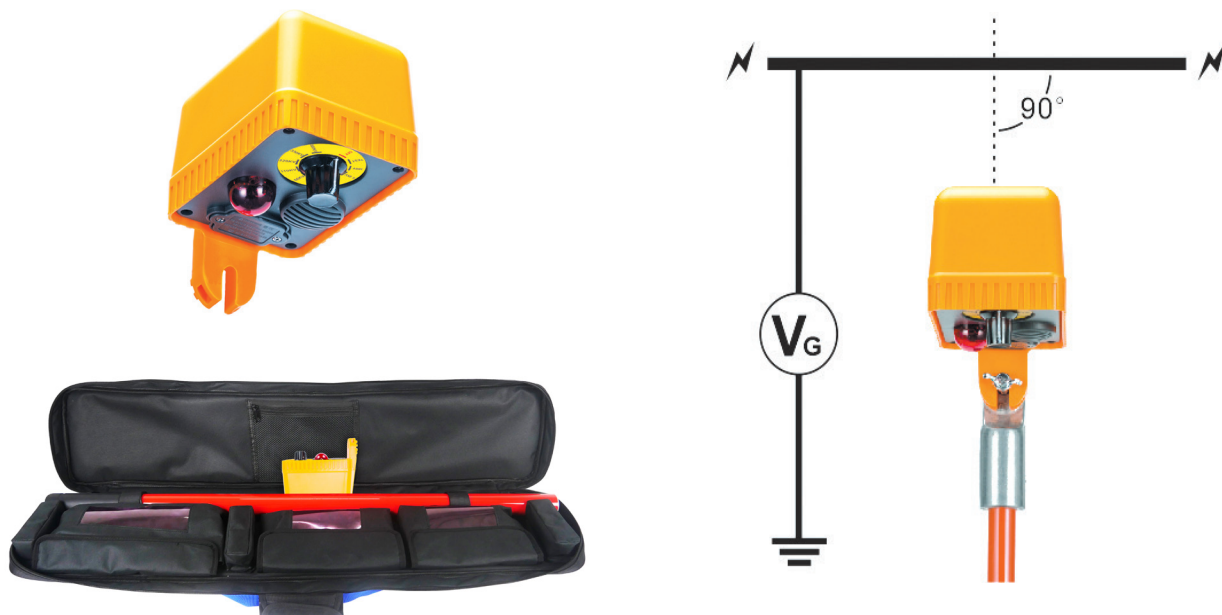
1. Voltage to earth measurement, DC voltage measurement, AC voltage measurement, induced voltage measurement, electricity testing alarm.
2. The operation is safe, simple and fast, and with audible and visual alarm function.
3. Equipped with magnet ground line and clamp ground line. Especially suitable for line inspection and maintenance on subway.

Technical Specifications

Power Supply	DC9V alkaline dry battery (LR6 1.5VX6PCS)
Voltage Range	AC/DC 30V~10kV
Voltage Accuracy	±2%±8dgt
Voltage Resolution	1V
Frequency Range	50Hz/60Hz
Input Resistance	About 150MΩ
Test Current	< 0.4mA/10kV
LCD Size	47mmX28.5mm
Alarm Indication	Testing voltage<36V, green indicator light up Testing voltage≥36V, red indicator light up Testing voltage≥280V, red indicator light up and triggering buzzer alarm
Automatic Shutdown	10 minutes without any operation after starting up, the detector will shutdown automatically
Battery Indication	Battery voltage lower than 7.2V±0.1V, display low voltage symbol "⊖ +", remind to replace the battery
Instrument Weight	About 4.5kg (include accessories)
Instrument Dimension	1680mmX102mmX83mm
Insulation Rod Length	Contraction state: about 1600mm, Extend state: about 5000mm
Insulation Test	Between exposed metal and plastic housing: AC3700V/rms
Working Temperature	-10°C ~40°C ; Below 80%RH
Accessories	Detector: 1PCS; Magnet ground liner: 1PCS, Clamp ground line: 1PCS; Tool Bag: 1PCS; LR06 battery: 6PCS



ETCR1820/1820B Non-Contact High Voltage Electroscope



Product Function

Applied to on-site high voltage line electricity testing, identify voltage level of high voltage system, inspect fault of high voltage line, repair the inspect induced voltage of the neon lamp, high voltage sodium lamp, inspect residual high voltage or induced voltage, etc.


Product Feature

1. Adopt non-contact induction technology, no need to contact with charged body, to ensure the safety of operators.
2. Bright red LED and harsh buzzer sound and light alarm, easy to identify.
3. The nine voltage grade gear cover variety of voltage levels. And it can be customized the voltage grade gear according to user demand.
4. Self - inspect function to ensure the accuracy of electricity testing.
5. Protection Level: IP65.

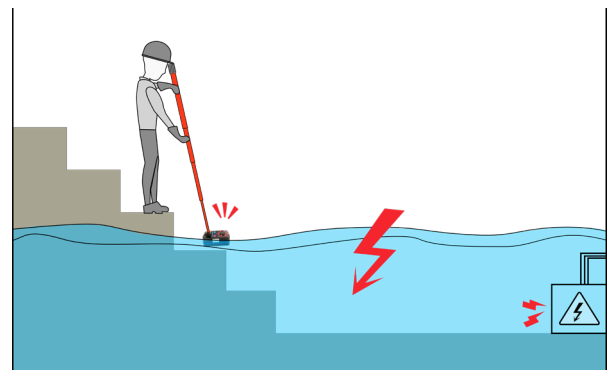
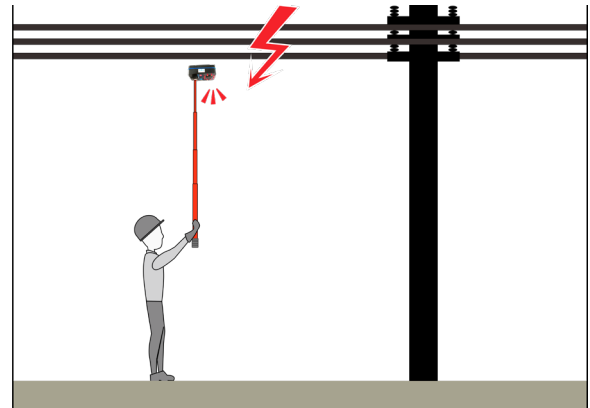
Voltage Grade and Gear of Electricity Testing

Model	Gear
ETCR1820	OFF--TEST--380V--6.6kV--10kV--35kV--66kV--110kV--220kV--330kV--500kV
ETCR1820B	OFF--TEST--240V--3.3kV--6kV--11kV--22kV--33kV--66kV--132kV--275kV

Technical Specification

Function	High-voltage line electrical testing on-site, identify voltage level of the high-voltage system, inspecting high-voltage line fault, repair neon light and high voltage sodium lamps, detect residual high voltage or induced voltage, etc
Power Supply	DC9V, Alkaline dry battery (6LR61 9V)
Voltage Gear	Nine gears
Electricity Test Range	240V~500kV (Optional)
Electricity Test Indication	Double red flashes LED light indication "beep - beep - beep" buzzing sound.
Self-inspect Function	Turn the knob to "TEST" gear, the indicator light on, and the buzzer will make sound of "beep-".
Low Battery Voltage Indication	When the detector battery voltage is lower than 7.2V±0.1V, the green power indicator flashes; when the receiver voltage lower than 4.8V±0.1V, low battery voltage symbol "  " will display and remind to replace battery.
Protection Level	IP65
Instrument Weight	Detector: 348g; Total weight: 3.95kg(include accessories)
Instrument Dimension	135mmX115mmX85mm
Insulation Rod Length	4300mm
Insulation Test	The insulated rod both ends after stretched: AC 220KV/rms Receiver, detector: AC 3700V/rms (between the exposure metal and plastic shell).
Working Temperature And Humidity	-10°C ~40°C ;elow 80%RH
Store Temperature And Humidity	-10°C ~ 60°C ; below 70%RH
Accessories	Detector:1PCS; Telescopic Insulation Rod: 1PCS; Tool Bag: 1PCS; 6LR61 battery: 1PCS

ETCR1840 Water Proof Approach Electricity Alarm



Product Function

When approaching the electrified object, the alarm will be triggered at a safe distance to remind the operators to pay attention on safety, avoid electric shock accidents, which provide safer guarantee for the workers working near the electricity.

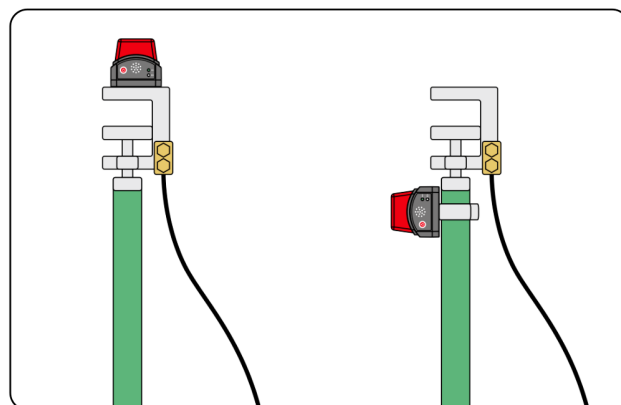
Product Feature

1. Non-contact sensing technology, all-round detect electric field, and automatic trigger alarm function.
2. Protection grade IP67, can be used for electric testing in the water.
3. With triple alarm modes of vibration, light and buzzer.
4. With 2 gears selection of high or low voltage alarm.
5. It can be connected to use with insulation rods.
- 6 The alarm power consumption is very small, and the standby time is as long as 6 months.

Technical Specification

Power Supply	Rechargeable lithium battery DC 7.4V 600mAh
Alarm Voltage Range	Low voltage: 40V~1kV; High voltage: 1kV~500kV
Working Frequency	50Hz/60Hz
Electricity Testing Mode	Non-contact type
Working Time	Continue working (alarm state): around 8 hours
	Standby: 6months
Alarm Mode	Vibration, light, buzzer
Weight	Alarm: 170g (include battery); Total weight: 820g (include accessories)
Dimension	LXWXH: 111mmX60mmX50mm
Insulation Rod	Stretch state 1m
Protection Level	IP67
Working Temperature & Humidity	-10 C ~ 40 C ; below 80%RH
Accessories	Alarm: detector 1PCS; Install Insulation Rod: 1PCS; Charger: 1PCS; Tool Bag: 1PCS

ETCR1850 Grouding Lead&Clip Device Approach Electricity Alarm



Product Function

The alarm is installed on the grounding lead clip or insulated rod, when the cable or device is live, the alarm triggers the alarm function to send out audible and visual alarm to remind the operator to pay attention to safety and avoid electric shock accidents, providing safer protection for the operator.

Product Feature

1. There are many ways to install the alarm, and it is very convenient to install the evacuation. When the alarm is installed on the insulated rod, as close as possible to the metal wire clip.
2. With non-contact induction technology, accurate alarm, alarm power consumption is very small, standby time up to 6 months.
3. All-round induction the voltage source, automatic trigger detection mode, sound and light alarm mode, to ensure the safety of personnel working near electricity.

Voltage Grade and Alar Distance

Voltage Grade	40V	110V	220V	600V	1KV	10KV
Alarm Distance	4cm	10cm	15cm	25cm	35cm	200cm

Note: In actual application, the alarm distance of the alarm may change due to the environment influence.

Technical Specification

Power Supply	Rechargeable lithium battery DC 7.4V 600mAh
Alarm Voltage Rnage	40V~10kV
Working Frequency	50Hz/60Hz
Electricity Testing Mode	Non-contact type
Detection Mode	Trigger automatic
Battery Life	Continue working (audible and visual alarm): around 48 hours
	Standby: 6months
Aalarm Mode	Indicator: continue blinking
	Buzzer: Make continuous sound Bee-Bee-Bee
Protection Level	IP65
Instrument Weight	Alarm: 125g (include battery); total weight: 320g (include accessories)
Instrument Dimension	80mmX77mmX57mm
Working Temperature & Humidity	-10 C ~40 C , below 80%RH
Accessories	Alarm:1PCS; U-Type Hardware(install Insulation Rod): 1PCS; Hex Wrench: 1PCS; Fix Screw: 1PCS; Charger: 1PCS; Tool Bag: 1PCS

ETCR1860/1860C Wrist Type High Voltage Alarm



Product Function

After the operator wears the alarm, and close to the high voltage charged body for a certain distance, the alarm will send out a sound and light alarm according to the safety distance of the corresponding voltage level to remind the electrical worker to pay attention to safety and avoid high voltage electric shock accident. This product can also be used for line fault detection and electroscope.

Product Feature

1. Provide a safe, practical and convenient new style high voltage alarm device for high voltage approach electric operator.
2. Adopt non-contact induction technology, alarm accurately, power saving and durable, standby time up to 12 months.
3. All-directional induction voltage power source, automatic trigger detection mode, with sound and light alarm mode, to ensure the safety of near electricity workers.

Technical Specification

1.Voltage Level and Alarm Distance (The safety distance is in accordance with "GB 26860-2011 Electric Power Safety Working Regulations-Electrical Part of Power Plants and Substations" and "GB 26859-2011 Electric Safety Working Regulations-Power Line Part")

Model	Voltage Level	safe distance	Alarm Distance	Model	Voltage Level	Alarm Distance
ETCR1860	0.4kV		0.02m	ETCR1860C	40V	5cm
	1kV		0.10m		110V	10cm
	6.6kV		0.70m		220V	15cm
	10kV	0.70m	1.00m		600V	40cm
	35kV	1.00m	1.60m		1kV	60cm
	66kV	1.50m	2.20m			
	110kV	1.50m	2.50m			
	220kV	3.00m	3.50m			
	330kV	4.00m	4.50m			
	500kV	5.00m	5.50m			

2.Technical Parameter

Power Supply	CR1632 (140mAH) button cell 1pcs	
Alarm Voltage Range	ETCR1860: 0.4kV~500kV (high voltage alarm) ETCR1860C: 40V~1kV (Low voltage alarm)	
Working Frequency	50Hz/60Hz	
Electricity Testing Mode	Non-contact mode	
Detection Mode	Automatic trigger	
Alarm Distance Error	±10cm (under base condition)	
Battery Life	Continues working (sound and light alarm): about 24 hours Standby: about 12 months	
Alarm Mode	Indicator: LED light visibility under 8000LX visible light Buzzer: above 60dB (60CM apart)	
Protection Level	IP54	
Weight	0.08kg	
Dimensions	90mmX40mmX35mm	
Working Temperature	-10°C ~ 40°C ; below 80%RH	
Store Temperature	-10°C ~ 60°C ; below 70%RH	
Accessories	Alarm : 1PCS; Button Battery: 1PCS; Plastic Coin (use for replace battery): 1PCS	

ETCR1870/1870C H/L Voltage Approach Electric Alarm (Arm Type)



The alarm is worn on the upper arm of the outermost overalls of the working personnel, and the front of the alarm is facing the outside.

Product Function

After the operator wears the alarm, and close to the high voltage charged body for a certain distance, the alarm will send out a sound and light alarm according to the safety distance of the corresponding voltage level to remind the electrical worker to pay attention to safety and avoid high voltage electric shock accident. This product can also be used for line fault detection and electro-scope.

Product Feature

1. Provide a safe, practical and convenient new style high voltage alarm device for high voltage approach electric operator. It is especially suitable for the site of overhead high voltage line.
2. The alarm is worn on the wrist of the operator, and the alarm Δ symbol toward the direction of the fingertip.
3. Adopt non-contact induction technology, alarm accurately, power saving and durable, standby time up to 12 months.
4. All-directional induction voltage power source, automatic trigger detection mode, with sound and light alarm mode, to ensure the safety of approach electricity workers.

Technical Specification

1. Voltage Level and Alarm Distance

Model	Voltage Level	Safe Distance	Alarm Distance	Model	Voltage Level	Alarm Distance
ETCR1870	0.4kV		0.02m	ETCR1870C	40V	5cm
	1kV		0.10m		110V	10cm
	6.6kV		0.70m		220V	15cm
	10kV	0.70m	1.00m		600V	40cm
	35kV	1.00m	1.60m		1kV	60cm
	66kV	1.50m	2.20m			
	110kV	1.50m	2.50m			
	220kV	3.00m	3.50m			
	330kV	4.00m	4.50m			
500kV	5.00m	5.50m				

2. Technical Parameters

Power Supply	CR1632 (140mAh) button cell 2PCS	
Alarm Voltage Range	ETCR1870: 0.4kV~500kV (high voltage alarm) ETCR1870C: 40V~1kV (Low voltage alarm)	
Working Frequency	50Hz/60Hz	
Electricity Testing Mode	Non-contact mode	
Detection Mode	Automatic trigger	
Alarm Distance Error	± 10 cm (under base condition)	
Battery Life	Continues working (sound and light alarm): about 24 hours Standby: about 12 months	
Alarm Mode	Indicator: LED light visibility under 8000LX visible light Buzzer: above 60dB (60CM apart)	
Protection Level	IP54	
Weight	800g (include accessories)	
Dimensions	88mmX32mmX30mm	
Working Temperature	-10°C ~ 40°C, below 80%RH	
Accessories	Alarm: 1PCS; Button cell: 2PCS; Plastic disc (dismounting battery cover): 1PCS	

ETCR1880/1880C H/L Voltage Approach Electric Alarm (Helmet Type)



Product Function

The alarm is worn on the helmet, and the front of the alarm is facing outwards.

After the operator wears the alarm, and close to the high voltage charged body for a certain distance, the alarm will send out a sound and light alarm according to the safety distance of the corresponding voltage level to remind the electrical worker to pay attention to safety and avoid high voltage electric shock accident. This product can also be used for line fault detection and electroscope.

Product Feature

1. Provide a safe, practical and convenient new style high voltage alarm device for high voltage approach electric operator. It is especially suitable for the site of overhead high voltage line.
2. The alarm is worn on the wrist of the operator, and the alarm symbol toward the direction of the fingertip.
3. Adopt non-contact induction technology, alarm accurately, power saving and durable, standby time up to 12 months.
4. All-directional induction voltage power source, automatic trigger detection mode, with sound and light alarm mode, to ensure the safety of approach electricity workers.

Technical Specification

1. Voltage Level and Alarm Distance

Model	Voltage Level	Safe Distance	Alarm Distance	Model	Voltage Level	Alarm Distance
ETCR1880	0.4kV		0.02m	ETCR1880C	40V	5cm
	1KV		0.1m		110V	10cm
	6.6KV		0.70m		220V	15cm
	10KV	0.70m	1.00m		600V	40cm
	35KV	1.00m	1.60m		1KV	60cm
	66KV	1.50m	2.20m			
	110KV	1.50m	2.50m			
	220KV	3.00m	3.50m			
	330KV	4.00m	4.50m			
	500KV	5.00m	5.50m			

2. Technical Parameters

Power Supply	CR1632 (140mAh) button battery 2PCS	
Alarm Voltage Range	ETCR1880: 0.4kV~500kV (high voltage alarm) ETCR1880C: 40V~1kV (Low voltage alarm)	
Working Frequency	50Hz/60Hz	
Electricity Testing Mode	Non-contact mode	
Detection Mode	Automatic trigger	
Alarm Distance Error	±10cm (under base condition)	
Battery Life	Continues working (sound and light alarm): about 24 hours Standby: about 12 months	
Alarm Mode	Indicator: LED light visibility under 8000LX visible light Buzzer: above 60dB (60CM apart)	
Protection Level	IP54	
Weight	1000g (include accessories)	
Dimensions	88mmX32mmX30mm	
Working Temperature	-10°C ~40°C , below 80%RH	
Accessories	Alarm: 1PCS; Button cell: 2PCS; Plastic disc (dismounting battery cover): 1PCS	

ETCR2000+/ETCR2000A+/2000C+ Clamp Earth Resistance Tester

Product Function

Earth resistance measurement, loop resistance measurement.

Product Features

1. A major breakthrough in grounding resistance test technology, non-contact measurement is safe and fast.
2. In measuring the loop grounding system, it is not necessary to disconnect the grounding down leads, no need auxiliary grounding electrode, saving time and more effect.
3. Clamp earth resistance tester can measure the ground fault which can't be measured by traditional method, can apply in the occasion where traditional methods are unworkable.
4. Have functions of audible and visible alarm, data memory, data hold.



Technical Specification

Model	ETCR2000+	ETCR2000A+	ETCR2000C+
Resistance Range	0.010Ω~1200Ω	0.010Ω~200Ω	0.010Ω~1200Ω
Current Range	-	-	0.00mA~20.0A
Resistance Range & Accuracy	Range	Resolution	Accuracy
	0.010Ω~0.099Ω	0.001Ω	±(1%rdg+0.01Ω)
	0.10Ω~0.99Ω	0.01Ω	±(1%rdg+0.01Ω)
	1.0Ω~49.9Ω	0.1Ω	±(1%rdg+0.1Ω)
	50.0Ω~99.5Ω	0.5Ω	±(1.5%rdg+0.5Ω)
	100Ω~199Ω	1Ω	±(2%rdg+1Ω)
	200Ω~395Ω	5Ω	±(5%rdg+5Ω)
	400Ω~590Ω	10Ω	±(10%rdg+10Ω)
	600Ω~880Ω	20Ω	±(20%rdg+20Ω)
900Ω~1200Ω	30Ω	±(25%rdg+30Ω)	
Current Range & Accuracy	0.00mA~9.95mA	0.05mA	±(2.5%rdg+1mA)
	10.0mA~99.0mA	0.1mA	±(2.5%rdg+5mA)
	100mA~300mA	1mA	±(2.5%rdg+10mA)
	0.30A~2.99A	0.01A	±(2.5%rdg+0.1A)
	3.0A~9.9A	0.1 A	±(2.5%rdg+0.3A)
	10.0A~20.0A	0.1 A	±(2.5%rdg+0.5A)
	20.0A~30.0A	0.1 A	±(3%+1A)
Clamp Jaw Size	65mmX32mm		
Tester Dimension	285mm(L)X85mm(W)X56mm(T)		
Tester Weight	2300g (include accessories)		
Power Supply	DC6V Alkaline dry battery (LR6 1.5VX4PCS)		
Single Measurement Time	0.5 second		
LCD Screen	4 Digits LCD display, 47mm(L)X28.5mm(W)		
Data Memory	99 Groups		
Audible & Visible Alarm	"Du—du—du" alarm sound , press AL key to turn on/off		
Alarm Threshold Setting Range	Resistance: 1~199Ω		
Clamp Jaw Opening Size	32mm		
Protection Level	Double insulation		
Gear Shift	Automatically		
RS232 Interface	Optional		
Accessories	Meter: 1PCS; Test Ring: 1PCS; Case: 1PCS; LR6 battery: 4PCS		

ETCR2100+/2100A+ /2100C+ Clamp Earth Resistance Tester

Product Function

Earth resistance measurement, loop resistance measurement.

Product Features

- 1.A major breakthrough in grounding resistance testing technology, non-contact measurement is safe and fast.
- 2.When measuring loop grounding system, there is no need to disconnect the grounding down leads, no need auxiliary grounding electrode, saving time and more effect.
- 3.Clamp earth resistance tester can measure the ground fault which can't be measured by traditional method, can apply in the occasion where tradition methods are unworkable
- 4.Have functions of audible and visible alarm, data memory, data hold.



Technical Specification

Model	ETCR2100+	ETCR2100A+	ETCR2100C+
Resistance Range	0.010Ω ~ 1200Ω	0.010Ω ~ 200Ω	0.010Ω ~ 1200Ω
Current Range	-	-	0.00mA ~ 20.0A
Resistance Measurement Accuracy	Range	Resolution	Accuracy
	0.010Ω~0.099Ω	0.001Ω	±(1%rdg+0.01Ω)
	0.10Ω~0.99Ω	0.01Ω	±(1%rdg+0.01Ω)
	1.0Ω~49.9Ω	0.1Ω	±(1%rdg+0.1Ω)
	50.0Ω~99.5Ω	0.5Ω	±(1.5%rdg+0.5Ω)
	100Ω~199Ω	1Ω	±(2%rdg+1Ω)
	200Ω~395Ω	5Ω	±(5%rdg+5Ω)
	400Ω~590Ω	10Ω	±(10%rdg+10Ω)
Current Measurement Accuracy	0.00mA ~9.95mA	0.05mA	±(2.5%rdg+1mA)
	10.0mA ~99.0mA	0.1mA	±(2.5%rdg+5mA)
	100mA ~300mA	1mA	±(2.5%rdg+10mA)
	0.30A~2.99A	0.01A	±(2.5%rdg+0.1A)
	3.0A~9.9A	0.1 A	±(2.5%rdg+0.3A)
	10.0A~20.0A	0.1 A	±(2.5%rdg+0.5A)
	20.0A~30.0A	0.1 A	±(3%+1A)
Clamp Size	Φ32mm		
Tester Size	260mm(L)X90mm(W)X66mm(T)		
Tester Weight	2.3kg (include accessories)		
Power Supply	DC6V Alkaline dry battery (LR6 1.5VX4PCS)		
Single Measurement Time	0.5 second		
LCD Screen	4 Digits LCD display, 47mm(L)X28.5mm(W)		
Data Memory	99 groups		
Audible And Visible Alarm	"du—du—du" for alarming , press AL to turn on/off		
Alarm Threshold Setting Range	Resistance: 1-199Ω; current: 1~499mA (only C type)		
Jaw Opening Size	32mm		
Protection Class	Double insulation		
Shift	Automatically		
RS232 Interface	Optional		
Accessories	Meter: 1PCS; Test Ring: 1PCS; LR6 battery: 4PCS; Case: 1PCS		

ETCR2100/2100A/2100C Clamp Earth Resistance Tester

Product Function

Earth resistance measurement, loop resistance measurement.

Product Features

1. A major breakthrough in earth resistance measurement technology, non-contact measurement safe and fast.
 2. When measuring the loop earth system, no need to disconnect the grounding down leads, and no need to add auxiliary electrode, which is saving time and more effective.
 3. Clamp Earth Resistance Tester can measure the grounding fault which can't be measured by traditional method, and applied to the situation where traditional methods cannot measure.
- Have functions of audible and visible alarm, data storage, data hold.



Technical Specification

Model	ETCR2100	ETCR2100A	ETCR2100C
Resistance Range	0.010Ω~1000Ω	0.010Ω~200Ω	0.010Ω~1000Ω
Current Range	--	--	0.00mA ~30.0A
Resistance Accuracy (23°C ±5°C , 75%RH)	Range	Resolution	Accuracy
	0.010Ω~0.099Ω	0.001Ω	±(1%rdg+0.01Ω)
	0.10Ω~0.99Ω	0.01Ω	±(1%rdg+0.01Ω)
	1.0Ω~49.9Ω	0.1Ω	±(1%rdg+0.1Ω)
	50.0Ω~99.5Ω	0.5Ω	±(1.5%rdg+0.5Ω)
	100Ω~199Ω	1Ω	±(2%rdg+1Ω)
	200Ω~395Ω	5Ω	±(5%rdg+5Ω)
	400~590Ω	10Ω	±(10%rdg+10Ω)
Current Accuracy (23°C ±5°C , 75%RH) (Only C type)	0.00mA ~9.95mA	0.05mA	±(2.5% + 1mA)
	10.0mA ~99.0mA	0.1mA	±(2.5% + 5mA)
	100mA ~300mA	1mA	±(2.5% + 10mA)
	0.30A~2.99A	0.01A	±(2.5% + 0.1A)
	3.0A~9.9A	0.1 A	±(2.5% + 0.3A)
	10.0A~19.9A	0.1 A	±(2.5% + 0.5A)
	20.0A~30.0A	0.1 A	±(3% + 1A)
Clamp Jaw Size	Φ32mm		
Tester Dimension	260mm(L)X105mm(W)X60mm(H)		
Weight	Appx. 1.54kg (include accessories)		
Power Supply	DC6V Alkaline dry battery (LR6 1.5VX4PCS)		
Single Measurement Time	0.5s		
LCD Screen	4 Digits LCD display: 47mm(L)X28.5mm(W)		
Data Storage	99 Groups		
Audible & Visual Alarm	"Du-du-du"alarm sound		
Alarm Threshold Setting	Resistance: 1~199Ω; Current: 1~499mA(only C type)		
Clamp Jaw Open Size	32mm		
Protection Level	Double insulation		
Shift	Automatically		
Accessories	Meter: 1PCS; Test Ring: 1PCS; LR6 battery: 4PCS; Case: 1PCS		

ETCR2000B+ Explosion Proof Type Clamp Earth Resistance Tester

Product Function

Grounding resistance and circuit resistance test in flammable and explosive area

Product features

- 1.Exploding-proof products, can be used in the corresponding environment, the shell is made of anti-static engineering plastic and safer.
- 2.Ex-mark: Ex ia II BT3Ga, Explosion-proof qualified No.: CE18.2380
- 3.When measuring the loop earth system, no need to disconnect the grounding down leads, no need with auxiliary grounding electrode
- 4.Clamp Earth Resistance Tester can measure the ground fault which can't be measured by traditional method, and apply in the situation where traditional methods could not measure.
- 5.Have functions of audible and visible alarm, data memory, data hold.



Technical Specification

	Range	Resolution	Accuracy
Resistance Range	0.010Ω~0.099Ω	0.001Ω	±(1%+0.01Ω)
	0.10Ω~0.99Ω	0.01Ω	±(1%+0.01Ω)
	1.0Ω~49.9Ω	0.1Ω	±(1%+0.1Ω)
	50.0Ω~99.5Ω	0.5Ω	±(1.5%+0.5Ω)
	100Ω~199Ω	1Ω	±(2%+1Ω)
	200Ω~395Ω	5Ω	±(5%+5Ω)
	400~590Ω	10Ω	±(10%+10Ω)
	600Ω~880Ω	20Ω	±(20%+20Ω)
	900Ω~1200Ω	30Ω	±(25%+30Ω)
Power Supply	DC6V Alkaline dry battery (LR6 1.5VX4PCS)		
Clamp Jaw Size	65mmX32mm		
Clamp Jaw Opening Size	32mm		
Tester Dimension	285mm(L)X85mm(W)X56mm(H)		
Tester Weight	1100g (include battery)		
Ex-Mark	Ex ia II BT3Ga		
Explosion-Proof Qualified No.	CE13.2263		
LCD Screen	4 Digits LCD display, Screen 47mm(L)X28.5mm(W)		
Data Storage	99 groups		
Audible & Visible Alarm	"Du—du—du" alarm sound, press "AL" key to turn on/off		
Alarm Threshold Setting Range	Resistance: 1~199Ω		
Protection Level	Double insulation		
Gear Shift	Automatically		
External Magnet / Electric Field	<40A/m; <1V/m		
Resistance Test Frequency	>1KHz		
Accessories	Meter: 1PCS; Test Ring: 1PCS; LR6 battery: 4PCS; Meter case: 1PCS		

ETCR2150 Clamp Loop Earth Resistance Tester



Product Function

loop resistance measurement, Loop leakage current measurement , lightning protection device tester.

Product Features

1. Fully meets the technical parameter requirements of the National Meteorological Administration Order No. 38 [Measures for the Administration of Qualifications for Testing of Lightning Protection Devices], lightning protection device tester.
2. The resistance and current are displayed on the same screen, the test results are clear and obvious. Equip with rechargeable lithium battery, convenient to operate.
3. Have functions of audible and visible alarm, data storage, data hold. Clock function, display present test time. USB interface data upload function.

Technical Specification

Clamp Jaw Size	Φ32mm
Tester Dimension	260mmX90mmX66mm
Weight	2.5kg (include accessories)
Resistance Range	0.010Ω~1500Ω
Resistance Resolution	0.001Ω
Resistance Accuracy	±(1%rdg + 0.01 Ω)
Current Range	0.000mA~40.0A
Current Resolution	1uA
Current Accuracy	±(1.5%rdg + 0.5mA)
Power Supply	Rechargeable lithium battery DC3.7V 2600mAh
Single Measurement Time	0.5s
LCD Displayer	4-digit LCD digital display, screen: 47mmX28.5mm
Data Storage	999 Groups
Audible & Visual Alarm	"Du—du—du" alarm sound
Alarm Threshold Setting	Resistance: 1~199Ω; Current: 1~499mA
Shift	Automatically
External Magnet / Electric Field	< 40A/m; < 1V/m
Resistance Test Frequency	> 1KHz
Interface	USB interface, Software monitoring, Data upload computer
Accessories	Meter: 1PCS; Test ring: 1PCS; USB data cable / charge cable: 1PCS; Charger Adaptor: 1PCS; Instrument Case: 1PCS

ETCR2200 Multi-Function Clamp Earth Resistance Tester



Product Function

Ground resistance measurement ,loop resistance measurement , grounding down leads leakage current measurement, judge ground fault

Product Features

- 1.A major breakthrough in grounding resistance testing technology, non-contact measurement is safe and fast. When measuring the loop earth system, no need to disconnect the grounding down leads, no need with auxiliary grounding electrode, saving time and more effect.
- 2.The resistance and current are displayed on the same screen, the test results are clear at a glance.
3. Have functions of audible and visible alarm, data memory, data hold. Clock function, display present test time.
4. Equipped with USB interface, communication line and software, the storage data can be uploaded to the computer for reading, saving and printing.
- 5.Equipped with a rechargeable lithium battery, easy to use.
- 6.Bluetooth communication function, can upload the test results to the mobile phone

Technical Specification

Clamp Size	65mmX32mm
Tester Size	285mmX85mmX56mm
Weight	2.3kg (include accessories)
Resistance Range	0.010Ω~1500Ω
Resistance Resolution	0.001Ω
Resistance Test Accuracy	±(1%rdg+0.01Ω)
Current Range	0.000mA~40.0A
Current Resolution	1uA
Current Test Accuracy	±(1.5%rdg+0.5mA)
Power Supply	Rechargeable lithium battery DC3.7V 2600mAh
Single Measurement Time	0.5 second
LCD Monitor	4-digit LCD digital display, 47mm(L)X28.5mm(W)
Data Storage	999 Groups
Audible Alarm	"du—du—du" for alarming
Alarm Threshold Setting Range	Resistance: 1~199Ω; Current: 1~499mA
Shift	Automatically
External Magnet / Electric Field	< 40A/m; < 1V/m
Resistance Test Frequency	> 1KHz
Interface	USB interface, Software monitoring, Data upload computer
Accessories	Meter: 1PCS; Test ring: 1PCS; USB data cable / charge cable: 1PCS; Charger Adaptor: 1PCS; Case: 1PCS

ETCR2300/2300B Ground Pile Type Clamp Earth Resistance Tester



Product Function

Measurement of the earth resistance, loop resistance, soil resistivity, earth voltage, grounding lead leakage current and grounding fault judgement.

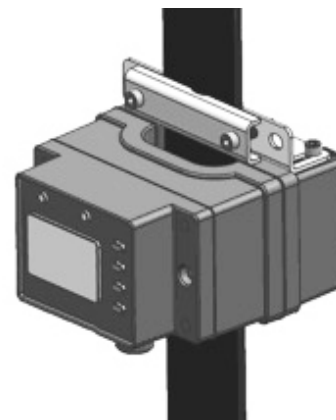
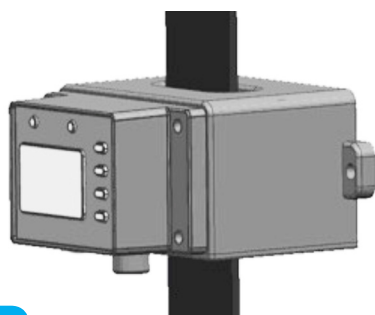
Product Features

1. Use the clamp method, 2-wire method, 3-wire method, 4-wire method, selection method and other measurement methods to measure earth resistance.
2. Adopt with 2.5-inch color LCD screen, the tester equip with USB and charge port, with storage function, clock function, automatic storage the test results 500groups which containing the date and time.
3. Support Android system Bluetooth communication function, after installing APP can test or read test records in mobile, bring new experience.

Technical Specification

Model	ETCR2300	ETCR2300B
Earth Resistance Range	0.00Ω~20kΩ	0.00Ω~200kΩ
Soil Resistivity Range	0.00Ωm~9999kΩm	0.00Ωm~9999kΩm
Earth Current Range	0.000mA~20A	0.000mA~45A
Earth Voltage Range	0.0V~600.0V	0.0V~600.0V
Power Supply	DC 3.7V 2600mAh rechargeable lithium battery, full charge about 4.2V	
Display Mode	2.5 inch colorful LCD screen	
Earth Resistance	Clamp method, 2-wire method, 3-wire method, 4-wire method, selection method	
Test Frequency	128Hz/111Hz/105Hz/94Hz (AFC automatic frequency selection)	
Short-circuit Test Current	AC 10mA max	
Open-circuit Test Voltage	AC 14V max	
Electrode Spacing Range	1m~100m	
Clamp Jaw Size	65mmX32mm	
Tester Dimension	307mm(L)X98mm(W)X56mm(H)	
Tester Weight	Tester: about 1112g(include the battery); Total weight: about 5.1KG(include all accessories)	
Auxiliary Earth Rod	4 PCS: Φ9mmX2300mm	
Test Line	4PCS: red 20m, black20m, yellow 10m, green 10m	
Simple Test Line	2PCS: red 1.6m, black 1.6m	
Measurement Times	Over 5000 times (short-circuit test, after 1 testing must stop 30s then can test again)	
Line Voltage	Measurement below AC 600V	
Data Sore	500groups	
Alarm Function	Audible and visual alarm, make out "Toot-toot-toot" alarm sound	
Automatic Shutdown	After power on 5 minutes, will automatic shutdown without any operation	
Shift	Automatic shift	
External Magnetic & Electric Field	< 40A/m; < 1V/m	
Resistance Measurement Frequency	>1KHz, 128Hz	
Connection Interface	USB charge interface	
Accessories	Tester:1PC; Test ring: 1PCS; USB charge cable: 1PCS; Charger Adaptor: 1PCS; Ground stake: 4PCS; Test line: 4PCS; Simple test line: 2PCS; Tool bag: 1PCS	

ETCR2800B/2800C/2800KB/2800KC Non-Contact Earth Resistance On-line Detector







Product Function

On-line monitoring of earth resistance and metal loop connection resistance, grounding status.

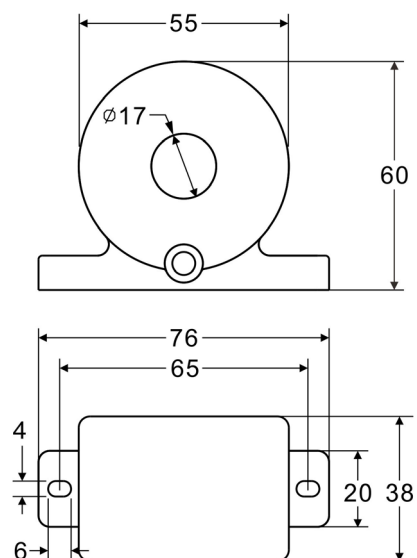
Product Features

- 1.Non-contact measurement technology, safe and reliable, easy to install. The grounding down lead passes through the perforation of detector directly, and not affects the grounding lightning protection effect and the normal operation of the facility.
- 2.The C type product is equipped with a LCD that can be installed and used independently. The earth resistance value can be observed at any time.
- 3.Equipped with RS485 interface (support MODBUS-RTU communication protocol) or GPRS communication, connect with the user computer to realize remote real-time monitoring.
- 4.Explosion-proof products can be used in the flammable and explosive environment, explosion-proof mark: Ex ia II BT3Ga, explosion-proof certification: CE23.3868X.
- 5.An optional lightning protection board is available for purchase, suitable for outdoor lightning-prone environments, with a power supply of 12V-24V. 4G and lightning protection boards cannot be purchased at the same time.

Technical Specification

	ETCR2800B	ETCR2800C	ETCR2800KB	ETCR2800KC
Model				
Range	0.01Ω~200Ω	0.01Ω~100Ω	0.01Ω~200Ω	0.01Ω~100Ω
Weight	About 955g	About 1027g	About 980g	About 1071g
Resolution	0.001Ω			
Accuracy	±2%rdg±3dgt(20°C ±5°C ,Below70%RH)			
Data Display	No (can be read by RS485 protocol)		4-digit LCD display directly, can be read by RS485 protocol	
LCD Size	No		47mmX28.5mm	
Overflow Indication	No		Measure value over 200Ω, LCD display "OLΩ" symbol	
Alarm Indication	Tester audible and visible alarm		Tester audible and visible alarm	
Alarm Setting	Configured with RS485 protocol		Tester panel setting or configured with RS485 protocol	
Power Supply	6VDC~12VDC, 50mA Max.(External power supply, optional 4G 12VDC 150mA Max)			
Working Current	50mA Max. (Optional 4G 12VDC 150mA Max)			
Explosion-Proof Mark	Ex ia II BT3Ga(explosion-proof certification: CE23.3868X)			
Waterproof Level	IP54			
Dimensions	ETCR2800B/2800C: 144mmX130mmX84mm; ETCR2800KB/2800KC: 125mmX119mmX80mm			
CT Size	ETCR2800B/2800C: 60mmX27mm; ETCR2800KB/2800KC: 56mmX27mm			
Single Measurement Time	About 0.5 second			
Communication Mode	RS485 (supports MODBUS-RTU communication protocol) or 4G communication (optional)			
Normal 4G Version	LTE-FDD B1/B3/B5/B8 LTE-TDD B34/B38/B39/B40/B41			
Global 4G Version	LTE-FDD B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 LTE-TDD B38/B39/B40/B41 WCDMA B1/B2/B4/B5/B6/B8/B19 GSM B2/B3/B5/B8			
Accessories	Detector: 1PCS; Hardware installation parts: 1PCS; Communication connection line: 1PCS; GSM glue stick antenna (4G version accessories)			

ETCR2800E Small Diameter Earth Resistance Online Detector



Product Function

Suitable for loop earth resistance system online monitoring, metal loop connection resistance online monitoring, grounding state monitoring.

Product Features

1. Sensors and PCB modules are provided to facilitate user secondary development of grounding resistance online monitoring products.
2. Non-contact measurement technology, safe and reliable, easy to install, suitable for narrow and small space.
3. Equipped with RS485 (support MODBUS-RTU communication protocol) or 4G communication module(optional), connected with the user computer to remote real-time monitoring.

Technical Specification

Measurement Range	Range: 0.01Ω~100Ω; Resolution: 0.001Ω
Output Range	0.00Ω~100Ω
Accuracy	±2%rdg±3dgt (20°C ±5°C , below 70%RH)
Power Supply	6VDC~12VDC, 50mA Max.(External power supply)
Weight	334g
PCB Size	76mmX60mmX38mm
Sensor Perforation Size	Φ17mm
LCD Size	47mmX28.5mm
PCB Size	75mmX54mmX22mm
Installation Requirements	sensor and the circuit boards need to be placed in other protective boxes
Single Measurement Time	0.5 second
PCB Interface	J1: Signal output, power input interface J2: Sensor and PCB interface
Symbol J1	P+: Power input with positive R+: Signal output with positive P-: Power input ground R-: Signal output with negative GND: Signal ground, short connect with power input ground (P-)
Symbol J2	I+, I-Current coil interface U+, U-Voltage coil interface GND: Common ground
Communication Mode	RS485 (supports MODBUS-RTU communication protocol) or 4G communication (optional)
Explosion-Proof Mark	Ex iaIIBT3Ga
Regular Version 4G	LTE-FDD B1/B3/B5/B8 LTE-TDD B34/B38/B39/B40/B41
Global Version 4G	LTE-FDD B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 LTE-TDD B38/B39/B40/B41 WCDMA B1/B2/B4/B5/B6/B8/B19 GSM B2/B3/B5/B8
Accessories	Sensor: 1PCS; PCB Module: 1PCS; Connection wire: 1PCS; Signal wire: 1PCS

ETCR2800N Built-in Earth Resistance Online Detector



Product Function

Suitable for secondary development, online monitoring of loop grounding resistance and metal loop connection resistance, grounding condition monitoring.

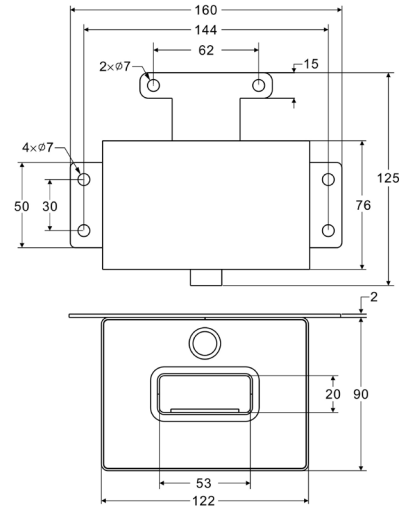
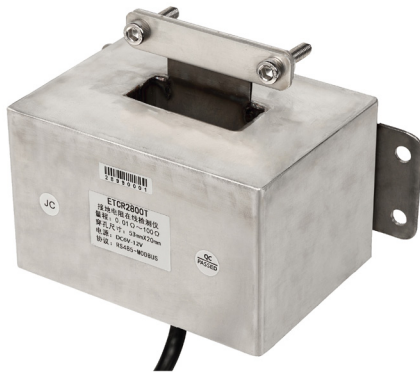
Product Features

1. Sensors and PCB modules are provided to facilitate user secondary development of grounding resistance online monitoring products.
2. Non-contact measurement technology, safe and reliable, easy to install. The grounding down leads passes through the tester perforation directly, not affect the lightning protection grounding effect and the normal operation.
3. Equipped with RS485 (support MODBUS-RTU communication protocol) or 4G communication module, connected with the user computer to remote real-time monitoring.

Technical Specification

Measurement Range	Range: 0.01Ω~100Ω; Resolution: 0.001Ω
Output Range	0.00Ω~100Ω
Accuracy	±2%rdg±3dgt (20°C ±5°C , below 70%RH)
Power Supply	6VDC~9VDC, 50mA Max. (External power supply)
Weight	715g (include accessories)
Sensor Size	110mmX80mmX55mm
Sensor Perforation Size	65mmX36mm
LCD Size	47X28.5mm
PCB Size	76mmX60mmX38mm
Installation Requirements	Sensors and circuit boards need to be placed in other protective boxes
Single Measurement Time	0.5second
PCB Interface	J1: Signal output, power input interface J2: Sensor and PCB interface
Symbol J1	P+: Power input with positive R+: Signal output with positive P-: Power input ground R-: Signal output with negative GND: Signal ground, short connect with power input ground (P-)
Symbol J2	I+, I-Current coil interface U+, U-Voltage coil interface GND: Common ground
Communication Mode	RS485 (supports MODBUS-RTU communication protocol) or 4G communication (optional)
Explosion-Proof Mark	Ex iaIBT3Ga
Regular Version 4G	LTE-FDD B1/B3/B5/B8 LTE-TDD B34/B38/B39/B40/B41
Global Version 4G	LTE-FDD B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 LTE-TDD B38/B39/B40/B41 WCDMA B1/B2/B4/B5/B6/B8/B19 GSM B2/B3/B5/B8
Accessories	Sensor: 1PCS; PCB Module: 1PCS; Connection wire: 1PCS

ETCR2800T Stainless Steel Earth Resistance Online Detector



Product Function

Suitable for secondary development, online monitoring of loop grounding resistance and metal loop connection resistance, grounding condition monitoring.

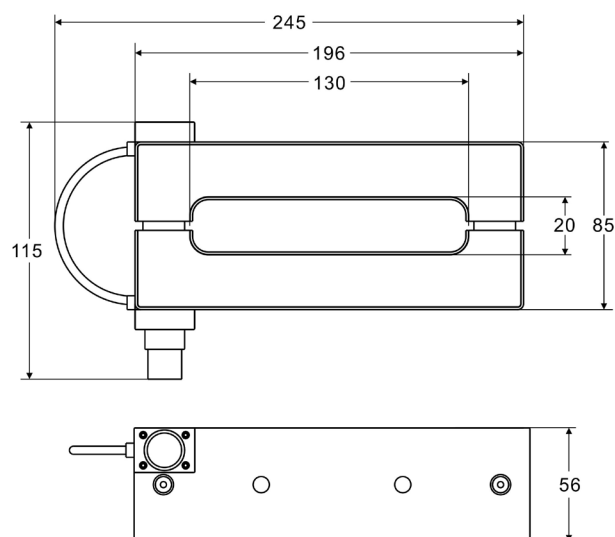
Product Features

1. Sensors and PCB modules are provided to facilitate user secondary development of grounding resistance online monitoring products.
2. Non-contact measurement technology, safe and reliable, easy to install. The grounding down leads passes through the tester perforation directly, not affect the lightning protection grounding effect and the normal operation.
3. The sensor adopts 304 stainless steel shell, internal filling and sealing resin, strong structure, anti-explosion, anti-impact, high and low temperature resistance, waterproof and dustproof, suitable to use in any weather. Especially suitable for installation and using in outdoor, oil depot, gas station. Explosion-proof mark: Ex ia II BT3Ga, explosion-proof certification: CE18.2332X.
4. Equipped with RS485 (support MODBUS-RTU communication protocol), connected with the user computer to remote real-time monitoring.

Technical Specification

Function	Online monitoring of loop grounding resistance and metal loop connection resistance, grounding condition monitoring
Measurement Range	Range: 0.01Ω~100Ω; Resolution: 0.001Ω
Output Range	0.00Ω~100Ω
Accuracy	±2%rdg±3dgt (20°C ±5°C, below 70%RH)
Power Supply	6VDC~9VDC, 50mA Max. (External power supply)
Weight	2176g (include accessories)
Sensor Size	160mmX90mmX125mm
Sensor Perforation Size	53mmX20mm
LCD Size	47X28.5mm
PCB Size	75mmX54mmX22mm
Installation Requirements	Sensors is installed at outdoor and circuit boards need to be placed in other protective boxes
Single Measurement Time	0.5second
PCB Interface	J1: Signal output, power input interface J2: Sensor and PCB connection interface
Symbol J1	P+: Power input with positive R+: Signal output with positive P-: Power input ground R-: Signal output with negative GND: Signal ground, short connect with power input ground (P-)
Symbol J2	I+, I-Current coil interface U+, U-Voltage coil interface GND: Common ground
Communication Mode	RS485 (supports MODBUS-RTU communication protocol)
Explosion-Proof Mark	Ex iaII BT3Ga
Protection Level	IP65
Regular Version 4G	LTE-FDD B1/B3/B5/B8 LTE-TDD B34/B38/B39/B40/B41
Global Version 4G	LTE-FDD B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 LTE-TDD B38/B39/B40/B41 WCDMA B1/B2/B4/B5/B6/B8/B19 GSM B2/B3/B5/B8
Accessories	Sensor: 1PCS; PCB Module: 1PCS; Connection wire: 1PCS; Signal wire: 1PCS

ETCR2800X Large Caliber Earth Resistance Online Detector



Product Function

Suitable for loop earth resistance system online monitoring, metal loop connection resistance online monitoring, grounding state monitoring.

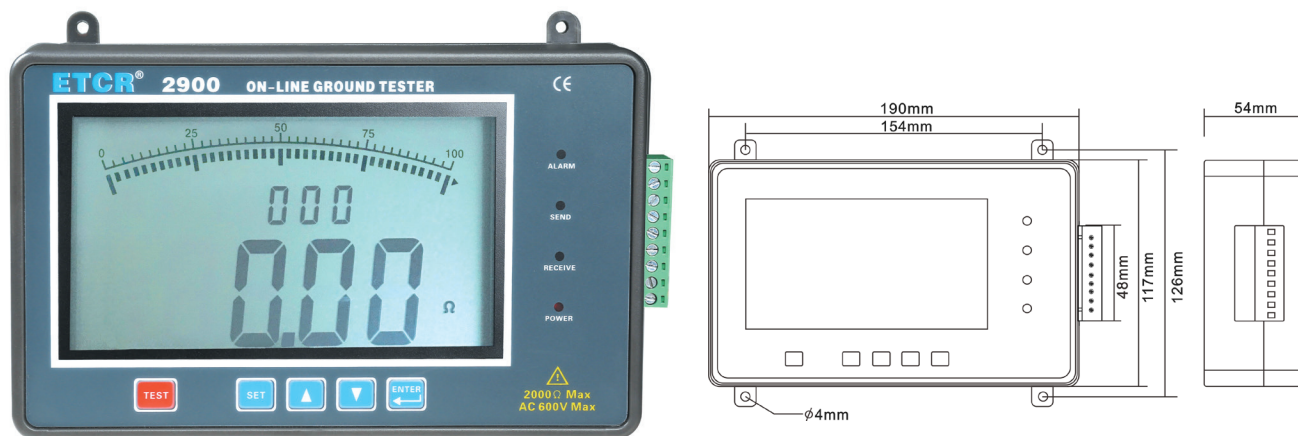
Product Features

1. Sensors and PCB modules are provided to facilitate user secondary development of grounding resistance online monitoring products.
2. Non-contact measurement technology, split core large caliber sensor, which is suitable for 130mm wide flat steel grounding pile, and no need to disconnect the grounding down lead when installation, convenient and efficient.
3. Equipped with RS485 (support MODBUS-RTU communication protocol) or 4G communication module(optional), connected with the user computer to remote real-time monitoring.

Technical Specification

Measurement Range	Range: 0.01Ω~10Ω; Resolution: 0.001Ω
Output Range	0.00Ω~10Ω
Accuracy	±2%rdg±3dgt (20 C ±5 C ; below 70%RH)
Power Supply	6VDC~12VDC, 50mA Max. (External power supply)
Weight	1950g
Sensor Size	245mmX115mmX56mm
Sensor Perforation Size	130mmX20mm
LCD Size	47mmX28.5mm
PCB Size	75mmX54mmX22mm
Installation Requirements	Sensor and the circuit boards need to be placed in other protective boxes
Single Measurement Time	0.5 second
PCB Interface	J1: Signal output, power input interface J2: Sensor and PCB interface
Symbol J1	P+: Power input with positive R+: Signal output with positive P-: Power input ground R-: Signal output with negative GND: Signal ground, short connect with power input ground (P-)
Symbol J2	I+, I-Current coil interface U+, U-Voltage coil interface GND: Common ground
Communication Mode	RS485 (supports MODBUS-RTU communication protocol) or 4G communication (optional)
Overflow Indication	Display value over 100Ω; communication send "OLΩ" command
Explosion-Proof Mark	Ex ia II BT3Ga
External Magnet	< 40A/m
External Electric Field	< 1V/m
Shift	Automatically
Accessories	Sensor: 1PCS; PCB Module: 1PCS; Connection wire: 1PCS; Signal wire: 1PCS; Hex wrenches: 1PCS

ETCR2900 Earth Resistance Online Detector



Product Function

Online monitoring of grounding resistance, grounding voltage.

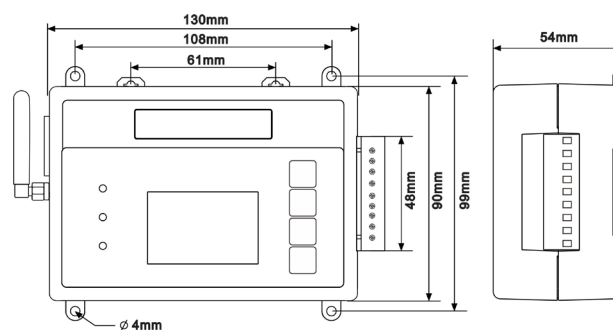
Product Features

1. Using precision 3-wire or simple 2-wire measurement method to test the grounding resistance. Adopt average value rectification method to test grounding voltage, online detection, real-time monitoring.
2. User can select RS232 or RS485 communication, according to the protocol MODBUS to secondary development, build network, realize remote multipoint online monitoring etc.
3. With LCD screen, can observe the grounding resistance value at any time.
4. Audible and visible alarm, setting the alarm thresholds. Setting the automatic monitoring record interval time

Technical Specification

Model	Standard: 12V ± 1VDC, 400mA Max. Optional: 24V ± 1VDC (provided externally)		
Ground Resistance	Range	Accuracy	Resolution
	0.01Ω~20Ω	±2%rdg±3dgt (auxiliary ground resistance 100Ω±5%, voltage to ground<10V)	0.01Ω
	0.1Ω~200Ω		0.1Ω
1Ω~2000Ω	1Ω		
Ground Voltage	0~600V AC	±2%rdg±3dgt	1V
Measure Mode	Precise 3-wire measurement, simple 2-wire measurement		
Measure Method	Earth resistance: rated current change-pole method, measured current 11mA Max, 128Hz; Earth voltage: average value rectification method		
Power Supply	Standard: 12V ± 1VDC, 400mA Max. Optional: 24V ± 1VDC (provided externally)		
Weight	Detector: 450g		
Dimension	190mm(L)X117mm(W)X54mm(H)		
LCD Size	128mmX75mm; Display area: 124mmX67mm		
Measurement Time	Voltage to ground: about 2 times/second; ground resistance: about 30 seconds/time		
Measurement Rate	Over 10000 times		
Monitoring Interval Time	Setting range of automatic monitoring interval time: 1-999 h		
Instrument Interface	Pluggable terminal blocks: 9 pin connector		
Communication Method	RS485		
Data Storage	400 groups , flash display "FULL" symbol indicate storage is full		
Data Access	Data read function: "READ" symbol display		
Overflow Display	Exceed measurement range overflow function: "OL" symbol display		
Alarm	Audible and visible alarm		
Power Supply Voltage	When power supply voltage decreases to about 10V, power supply low symbol will display, and remind to replace the power.		
Overload Protection	Measurement ground resistance: E-P, E-C between each interfaces AC 280V/3 seconds		
Electromagnetic Property	IEC61010-4-3, Wireless frequency electromagnetic field ≤ 1V / m		
Line Voltage	Measuring the voltage to ground: Below AC 600V		
Accessories	Detector: 1PCS; Communication Cable: 1PCS, 9P terminal block		

ETCR2900B Earth Resistance Online Detector



Product Function

Online monitoring of grounding resistance, grounding voltage.

Product Features

1. Using precision 3-wire or simple 2-wire measurement method to test the grounding resistance. Adopt average value rectification method to test grounding voltage, online detection, real-time monitoring.
2. User can select RS485 or 4G communication, according to the protocol MODBUS to secondary development, build network, realize remote multipoint online monitoring etc.
3. With LCD screen, can observe the grounding resistance value at any time. Audible and visible alarm, setting the alarm thresholds. Setting the automatic monitoring record interval time
4. Tester equip with guide rail structure, convenient to installation.

Technical Specification

Model	ETCR2900B		
Ground Resistance	Range	Accuracy	Resolution
	0.01Ω~20Ω	±2%rdg±3dgt (auxiliary ground resistance 100Ω±5%, voltage to ground<10V)	0.01Ω
	0.1Ω~200Ω		0.1Ω
1Ω~2000Ω	1Ω		
Ground Voltage	0~600V AC	±2%rdg±3dgt	1V
Measure Mode	Precise 3-wire measurement, simple 2-wire measurement		
Measure Method	Ground resistance: rated current change-pole method, measured current 11mA Max, 128Hz; voltage to ground: average value Rectification method.		
Power Supply	Standard: 12V±1VDC, 400mA Max (provided externally)		
Weight	Detector: 380g		
Dimension	130mmX90mmX54mm		
LCD Size	47mmX28.5mm		
Measurement Time	Voltage to ground: about 2 times/second; ground resistance: about 30 seconds/time		
Measurement Rate	Over 10000 times		
Monitoring Interval Time	Setting range of automatic monitoring interval time: 1~999 h		
Instrument Interface	Pluggable terminal blocks: 9 pin connector		
Communication Method	RS485 or 4G		
Data Storage	99 groups, flash display "99" symbol indicate storage is full		
Data Access	Data read function: "READ" symbol display		
Overflow Display	Exceed measurement range overflow function: "OL" symbol display		
Alarm	Audible and visible alarm		
Power Supply Voltage	When power supply voltage decreases to about 10V, power supply low symbol will display, and remind to replace the power.		
Overload Protection	Measurement ground resistance: E-P, E-C between each interfaces AC 280V/3 seconds		
Electromagnetic Property	IEC61010-4-3, Wireless frequency electromagnetic field ≤ 1V / m		
Line Voltage	Measuring the voltage to ground: Below AC 600V		
Accessories	Detector: 1PCS; 4G Communication module+external antenna: 1set (optinal), 9P terminal block		

ETCR3040 Digital Earth Resistance Tester





Product Function

2-wire method and 3-wire method earth resistance measurement, earth voltage measurement, AC and DC voltage measurement..

Product Features

1. The tester body is light, easy to carry and operate.
2. With the function of judgement the auxiliary grounding stake, the tester can display the resistance value of the auxiliary grounding stake in testing, which can avoid the error caused by the excessive earth resistance of the auxiliary ground stake.
3. With line resistance calibration function, which can avoid the error caused by the bad contact of the test line. It makes the measurement of low earth resistance more accurate and reliable in the site.
4. Earth voltage measurement function.

Technical Specification

Power Supply	DC9V, Alkaline dry battery (LR6 1.5VX6PCS)
Measurement Method	Earth resistance: rated current change-pole method, test current 20mA Max; Voltage to earth: average value rectification method
Earth Resistance Measurement	Range: 0.01Ω~2000Ω
	Resolution: 0.01Ω
	Accuracy: ±2%rdg±3dgt
Earth Voltage Measurement	Range: 0V~300V AC/DC
	Resolution: 1V
	Accuracy: ±2%rdg±3dgt
LCD Display	LCD display area: 58mmX46mm
Tester Dimension	183mm(L)X89mm(W)X56mm(H)
Weight	Total weight: about 2.37kg (include accessories)
Test Indicator	TESTING indicator light up, indicate that earth resistance is testing
Auxiliary Grounding Alarm	R P(S) R C(H) OK indicator light up, avoid errors caused by excessive grounding resistance of the auxiliary grounding electrode.
AC/ DC Voltage Alarm	When the voltage is greater than 36V, the Live circuit indicator light will flash and the buzzer will sound an alarm.
Line Resistance Calibration	Avoid errors caused by the test line not fully inserted into the tester interface or poor contact or the user replaces the lengthened test line, ensure earth resistance measurement accurate
Measurement Time	Earth resistance: 5 seconds/time; Voltage to earth: 2 times/second;
Automatic Shutdown	10 minutes without any operation after starting up, the tester will shutdown automatically
Battery Voltage	 While battery voltage drop to around 7.2V, low battery voltage symbol "  " will flash display, and remind to replace the battery
Overload Protection	Earth resistance: between each interfaces of E-P,E-C is AC 280V/3 seconds
Electromagnetic Property	IEC61010-4-3, wireless frequency electromagnetic field≤1V/m
Working Current	Backlight: 56mA Max; Standby: 20mA Max(Backlight off); Measurement: 200mA Max(Backlight off)
Accessories	Tester:1PCS; Ground stake: 2PCS; Test line: 3PCS; Simple test line:1PCS; Tool bag:1PCS; LR6 battery: 6PCS

ETCR3000 Digital Earth Resistance Tester

Product Function

Precision 3-wire, simple 2-wire measurement method of earth resistance, voltage to ground measurement.

Product features

1. With unique function of wire resistance verification, anti-interference capability and Environmental adaptability, more accurate for grounding resistance measurement.
2. The large LCD display of host machine is with white backlight and bar graph indicating that can be seen clearly.
3. Alarm function, data storage function.



Technical Specification

Earth Resistance	Range: 0.01Ω~2000Ω; Resolution: 0.01Ω; Accuracy: $\pm 2\%rdg \pm 3dgt$
Earth Voltage	Range: 0V~600V AC; Resolution: 1V; Accuracy: $\pm 2\%rdg \pm 3dgt$
Power Supply	DC 9V (Alkaline dry battery LR14 1.5V 6 PCS)
Tester Dimension	212mm(L)X175mm(W)X85mm(H)
Weight	3050g (include accessories)
Measurement Method	Earth resistance: rated current change-pole method, measurement current 20mA Max; Earth Voltage: average value rectification
Measurement Times	Over 5000 times (20Ω range measuring 10Ω for one time and repeat after 25 seconds)
Test Frequency	128 HZ
Test Current	>20mA (sine wave)
Measurement Time	Voltage to earth: 3 times/second; Earth resistance: 15 seconds/time
Data Storage	400 groups, flashes display "FULL" symbol indicate that storage is full
Data Hold	Data hold function: "HOLD" symbol display
Data Access	Data access function: "READ" symbol display
Overflow Indication	Exceed measurement range overflow function: "OL" symbol display
Line Voltage	Measurement voltage to earth: AC 600V MAX
Auxiliary Earth Rod	2 PCS: Φ9mmX230mm
Test Wires	Red 15m, yellow 10m, green 5m, red 1.6m (total 4pcs)
Wire Resistance Verification	Avoid errors caused by the test line not fully inserted into the instrument interface or poor contact or the user replaces the lengthened test line, ensure grounding resistance measurement more accurate
Alarm Function	Measurement value exceed alarm setting value, LCD "🔊" symbol flash and alarm
Auto Shutdown	15 Minutes after power on, will automatic shut down without any operation.
Battery Voltage	While battery voltage decreases to around 7.8V, will display low battery voltage symbol "🔋", and remind to replace the battery
Overload Protection	Earth resistance: between each terminal of E-P, E-C, AC 280V/3 seconds
Electromagnetic Features	IEC61010-4-3, Wireless frequency electromagnetic field $\leq 1V/m$
Working Current	Backlight: 25mA Max; System standby: 25mA Max (Backlight shut off); Measurement: 70mA Max (Backlight shut off)
Accessories	Tester: 1PC; Earth Rod: 2PCS; Testing Wire: 3PCS; Simple testing wire: 2PCS; Tester bag: 1PCS; Alkaline dry battery LR14 1.5V: 6 PCS

ETCR3000B Earth Resistance/ Soil Resistivity Tester

Product Function


Precision 4-wire, 3-wire, simple 2-wire measurement method to measure earth resistance, soil resistivity, earth voltage

Product features

- 1.Import FFT (fast Fourier transform) technology, AFC (automatic frequency control) technology, with unique anti-interference ability and environmental adaptability, high repeated test consistency.
- 2.The large LCD display of host machine is with white backlight and bar graph indicating that can be seen clearly.
- 3.With USB interface, data upload function, storage data can upload to computer save and print.
- 4.Audible and visual alarm and overload protection function



Technical Specification

Earth Resistance(R)	Range: 0.00Ω~30.00Ω;	Resolution: 0.01Ω;	Accuracy: ±2%rdg±3dgt
	Range: 30.0Ω~300.0Ω;	Resolution: 0.1Ω;	Accuracy: ±2%rdg±3dgt
	Range: 300Ω~3000Ω;	Resolution: 1Ω;	Accuracy: ±2%rdg±3dgt
	Range: 3.00kΩ~30.00kΩ;	Resolution: 10Ω;	Accuracy: ±4%rdg±3dgt
Earth Voltage	Range: 0.0~600V AC;	Resolution: 0.1V;	Accuracy: ±2%rdg±3dgt
Soil Resistivity (ρ)	Range: 0.00Ωm~99.99Ωm;	Resolution: 0.01Ωm	According to the precision of R ($\rho=2\pi aR$, $a: 1m\sim 100m$, $\pi=3.14$)
	Range: 100.0Ωm~999.9Ωm;	Resolution: 0.1Ωm	
	Range: 1000Ωm~9999Ωm;	Resolution: 1Ωm	
	Range: 10.00kΩm~99.99kΩm;	Resolution: 10Ωm	
	Range: 100.0kΩm~999.9kΩm;	Resolution: 100Ωm	
	Range: 1000kΩm~9000kΩm;	Resolution: 1kΩm	
Power Supply	DC 9V (Alkaline dry battery LR14 1.5V 6 PCS)		
Measuring Method	Earth Resistance: rated current change-pole method, measurement current 20mA Max Soil Resistivity: Wenner 4-pole measurement; Voltage to earth: Average rectifier Earth Voltage: average rectification(between P(S)-ES)		
Test Frequency	128Hz/111Hz/105Hz/94Hz(AFC)		
Test Current	>20mA (sine wave)	Open-circuit Test Voltage	AC 40V max
Data Storage	300 groups	Test Voltage Wave	Sine wave
Electrode Distance Range	Can be set 1m~100m	Weight	4.5kg (with package)
Data Access	Data read function: "READ" symbol display		
Data Hold	Data hold function: "HOLD" symbol display		
Overflow Indication	Exceed measurement range overflow function: "OL" symbol display		
LCD Dimension	LCD Frame Dimension:128mmX75mm; LCD Window Dimension: 124mmX67mm		
Tester Dimension	215mm(L)X178mm(W)X83mm(H)		
Testing Wires	Red 20m, black 20m, yellow 10m, green 10m, red 1.6m, black 1.6m (total 6pcs)		
Auxiliary Earth Rod	4 PCS: Φ9mmX230mm		
USB Interface	USB interface, software supervision, storage data can be uploaded to computer, saved and printed; data transmission line length:1.5m		
Alarm Function	Measuring value exceeds alarm setting value, will "Toot-toot-toot" alarm hint		
Auto Power-off	15 Minutes after power on, will automatic power off without any operation		
Overload Protection	Earth resistance: between each interfaces of C(H)-E, P(S)-ES, AC 280V/3 seconds		
Interference Test	Automatic recognition of interference signal , interference voltage higher than 5V will display "NOISE" symbol		
Auxiliary Earth Test	With auxiliary earth resistance test function: 0.00kΩ~30kΩ (100R+rC<50kΩ, 100R+rP<50kΩ)		
Line Voltage	Measure voltage to ground AC 600V Max		
Battery Voltage	While battery voltage decreases to around 7.5V, will display low battery voltage symbol  , and remind to replace the battery		
Working Current	System standby: around 20mA (Backlight shut off); Power on: 45mA (backlight shut off at 25mA); Measurement: 100mA (Backlight shut off)		
Accessories	Tester:1PCS; Ground stake: 4PCS; Test line:4PCS; Simple test line:2PCS; USB special communication cable:1PCS; Tester case:1PCS; LR14 battery: 6PCS		

ETCR3000C Digital Earth Resistance Tester



Product Function

Precision 3-wire, simple 2-wire method to measure earth resistance, earth voltage and low resistance.

Product features

1. With unique function of wire resistance verification, anti-interference capability and environmental adaptability, more accurate for on-site low grounding resistance measurement.
2. Package with waterproof protection box, waterproof, crash proof, anti-drop and durable, and large-capacity rechargeable lithium battery pack, especially suitable for use at outdoor construction site.
3. The large LCD display of host machine with white backlight and bar graph indication that can be seen clearly. Alarm function, overload protection function, auto shutdown and data upload function.

Technical Specification

Earth Resistance	Range: 0.01Ω~2000Ω Resolution: 0.01Ω Accuracy: ±2%rdg±3dgt
Earth Voltage	Range: 0~600V AC Resolution: 1V Accuracy: ±2%rdg±3dgt
Power Supply	DC 7.4V 2600mAh rechargeable lithium battery, battery charge full about 8.4V
Tester Dimension	280mm(L)X260mm(W)X160mm(H)
Weight	Host: about 4730g; Total weight: about 5kgs(include accessories and package)
Measurement Method	Earth resistance: rated current change-pole method, measure current 20mA Max; Voltage to earth: average value rectification
Test Frequency	128Hz/ 111Hz /105Hz /94Hz (AFC)
Test Current	>20mA (sine wave)
Measurement Time	Voltage to earth: 3 times/second; Earth resistance: 15 seconds/time
Data Storage	400 groups, flash "FULL" symbol indicate storage is full
Data Hold	Data hold function: "HOLD" symbol display
Data Access	Data access function: "READ" symbol display
Overflow Display	Exceed measurement range overflow function: "OL" symbol display
Auxiliary Ground Rod	2 PCS: Φ9mm×230mm
Test Wires	Red 15m, yellow 10m, green 5m, red 1.6m, black 1.6m (total 5 pcs wires)
USB Interface	With USB interface, software monitoring, storage data can be uploaded to computer, saved and printed; data transmission cable length: 1.5m
Wire Resistance Verification	Avoid errors caused by the test line not fully inserted into the instrument interface or poor contact or the user replaces the lengthened test line, ensure grounding resistance measurement more accurate
Alarm Function	Measure value exceed alarm setting value, will "Toot-toot-toot" alarm hint
Auto Shutdown	10 Minutes after power on, will automatic shutdown without any operation.
Battery Voltage	While battery voltage decreases to around 7.2V±0.1V, will display low battery voltage symbol "⊖+", and remind to replace the battery
Overload Protection	Earth resistance: between each interfaces of E-P, E-C, AC 280V/3 seconds
Protection Level	IP65 (close the case status)
Working Current	Backlight: 25mA Max; Standby: 25mA Max(Backlight close); Measurement: 70mA Max(Backlight close)
Accessories	Tester: 1PCS; Ground stake: 2PCS; Test line: 3PCS; Simple test line: 2PCS; USB communication cable : 1PCS; Tool bag: 1PC; Special charger: 1PCS

ETCR3100C Earth Resistance Soil Resistivity Tester



Product Function

Precise 3/4-wire, simple 2-wire method to measure earth resistance, soil resistivity, earth voltage.

Product features

- 1.Import FFT (fast Fourier transform) technology, AFC (automatic frequency control) technology, with unique anti-interference ability and environmental adaptability, highly repeat test consistency.
- 2.Package with waterproof protection box, waterproof, crash proof, anti-drop and durable, large-capacity rechargeable lithium battery pack, especially suitable for use at outdoor construction site
- 3.The large LCD display of host machine with white backlight and bar graph indication that can be seen clearly. Sound-light alarm function, overload protection, auto power-off and data upload function. 4.Support Bluetooth communication function of Android system.

Technical Specification

Earth Resistance(R)	Range: 0.00Ω~30.00KΩ	Resolution: 0.01Ω	Accuracy: $\pm 2\%rdg \pm 3dgt$
Earth Voltage	Range: AC 0.0~600V	Resolution: 0.1V	Accuracy: $\pm 2\%rdg \pm 3dgt$
Soil Resistivity (ρ)	Range: 0.00Ωm~99.99Ωm	Resolution: 0.01Ωm	Accuracy: According to the precision of R ($\rho = 2\pi aR$, a: 1 m-100m, $\pi = 3.14$)
	Range: 100.0Ωm~999.9Ωm	Resolution: 0.1Ωm	
	Range: 1000Ωm~9999Ωm	Resolution: 1Ωm	
	Range: 10.00kΩm~99.99kΩm	Resolution: 10Ωm	
	Range: 100.0kΩm~999.9kΩm	Resolution: 100Ωm	
Power Supply	DC 7.4V 2600mAh rechargeable lithium battery, full charge about DC 8.4V		
Measurement Method	Earth Resistance: rated current change-pole method, measure current 20mA Max		
	Soil Resistivity: 4-pole method (Wenner method) Earth Voltage: average rectification (between P(S)-ES)		
Test Frequency	128Hz/111Hz/105Hz/94Hz(AFC)		
Test Voltage Wave	Sine wave		
Short-circuit Test Current	AC 20mA max	Open-circuit Test Voltage	AC 40V max
Data Storage	300 groups	Data Hold	Data hold function: "HOLD" symbol display
Data Access	Data access function: "READ" symbol display	Overflow Display	Exceeding measure range overflow function: "OL" symbol display
LCD Dimension	LCD Frame Dimension: 128mmX75mm; LCD Display Dimension: 124mmX67mm		
Tester Dimension	280mm(L)X260mm(W)X160mm(H)		
Weight	Total Weight: 6.3kg (with package)		
Tes Wires	Red 20m, black 20m, yellow 10m, green 10m, red 1.6m, black 1.6m (total 6pcs wires)		
Auxiliary Ground Rod	4PCS: $\phi 9\text{mm} \times 230\text{mm}$		
USB Interface	With USB interface, software monitoring, storage data can be uploaded to computer, saved and printed; data transmission cable length: 1.5m		
Alarm Function	Measure value exceed alarm setting value, will "Toot-toot-toot" alarm indication		
Auto Shutdown	15 Minutes after power on, will automatic shut down without any operation.		
Overload Protection	Measure earth resistance: between each interfaces of C(H)-E, P(S)-ES, AC 280V/3 seconds		
Interference Test	Automatic recognition of interference signal, interference voltage higher than 5V will display "NOISE" symbol		
Auxiliary Grounding Test	Auxiliary earth resistance test function: 0.00kΩ~30kΩ (100R+rC<50kΩ, 100R+rP<50kΩ)		
Protection Level	IP65 (close the case)		
Battery Voltage	While battery voltage decreases to around DC 7.2V \pm 0.1V, will display battery voltage low symbol "⊖+", and reminding to replace the battery		
Working Current	Standby: around 20mA (Backlight close); Power on with backlight: 45mA (backlight close 25mA);		
	Measurement: 100mA (Backlight close)		
Accessories	Tester:1PC; Ground stake:4PCS; Test line:4PCS; Simple test line:2PCS; USB communication cable:1PCS; Tool bag:1PCS; Special charger: 1PCS		

ETCR3200 Double Clamp Earth Resistance Tester

Product Function

Precise 4-pole, 3-pole and simple 2-pole method, selection method, double clamp method for grounding resistance measurement, The measurement of earth resistance, soil resistivity, earth voltage, AC voltage, grounding lead leakage current, AC current, DC resistance.

Product features

- 1.Importing FFT and AFC technology. With unique anti-interference ability and environmental adaptability, high consistent of retest.
- 2.The large LCD display of host machine , with white backlight and bar graph indication that can be seen clearly.
- 3.With Alarm and data memory function
- 4.Data upload function, could upload memory data to computer for saving and printing.



Technical Specification

2/3/4 -Pole Method Measure Grounding Resistance(R)	Range: 0.00Ω~30.00Ω; Resolution: 0.01Ω; Accuracy: ±2%rdg±3dgt		
	Range: 30.0Ω~300.0Ω; Resolution: 0.1Ω; Accuracy: ±2%rdg±3dgt		
	Range: 300Ω~3000Ω; Resolution: 1Ω; Accuracy: ±2%rdg±3dgt		
	Range: 3.00kΩ~30kΩ; Resolution: 10Ω; Accuracy: ±4%rdg±3dgt		
Selection Method Measure Grounding Resistance(R)	Range: 0.00Ω~30.00Ω; Resolution: 0.01Ω; Accuracy: ±2%rdg±3dgt		
	Range: 30.0Ω~300.0Ω; Resolution: 0.1Ω; Accuracy: ±2%rdg±3dgt		
	Range: 300Ω~3000Ω; Resolution: 1Ω; Accuracy: ±2%rdg±3dgt		
Double Clamp Method Measure Grounding Resistance(Re)	Range: 0.01Ω~0.99Ω Resolution: 0.01Ω Accuracy: ±10%rdg±5dgt		
	Range: 1.0Ω~29.9Ω Resolution: 0.1Ω Accuracy: ±10%rdg±5dgt		
	Range: 30Ω~100Ω Resolution: 1Ω Accuracy: ±10%rdg±5dgt		
Earth Voltage	Range: 0.0~100V AC; Resolution: 0.1V; Accuracy: ±2%rdg±3dgt		
AC Current	Range: 0.00mA~600.0A Resolution: 0.00mA; Accuracy: ±2%rdg±3dgt		
Soil Resistivity (ρ)	Range: 0.00Ωm~99.99Ωm; Resolution: 0.01Ωm	According to the precision of R (ρ=2πra, a: 1 m~100m, π=3.14)	
	Range: 100.0Ωm~999.9Ωm; Resolution: 0.1Ωm		
	Range: 1000Ωm~9999Ωm; Resolution: 1Ωm		
	Range: 10.00kΩm~99.99kΩm; Resolution: 10Ωm		
	Range: 100.0kΩm~999.9kΩm; Resolution: 100Ωm		
Measuring Method	2/3/4- pole method: change-pole method, measure current 20mA Max		
	Selection method: change-pole method, measure current 20mA Max		
Power Supply	DC 9V (Alkaline dry battery LR14 1.5V 6 PCS)		
	Test Frequency 128Hz/111Hz/105Hz/94Hz(AFC)		
Test Current	>20mA (sine wave)	Open-Circuit Test Current	AC 40V max
Data Storage	2000 groups	Test Voltage Wave	Sine wave
Electrode Distance Range	Can be set 1m~100m	Weight	5.8kg (include package)
Tester Dimension	215mm(L)X178mm(W)X83mm(H)	Caliber of Clamp	φ50mm; connect wires: 2M
Data Holding	Holding data display "HOLD" symbol		
Data Access	Reading data display "READ" symbol		
Overflow Display	Exceed measure range overflow display "OL" symbol		
Electromagnetic Properties	IEC61326(EMC)		
LCD Dimension	128mmX75mm; LCD display Window Dimension: 124mmX67mm		
Testing Wires	Red 20m, black 20m, yellow 10m, green 10m, red 1.6m, black 1.6m (total 6pcs wires)		
Auxiliary Grounding Rod	4PCS, φ9mmX230mm		
RS232 Interface	With USB interface, software monitoring, storage data can be uploaded to computer for saving and printing		
Interference Test	Automatic recognition of interference signal , interference voltage higher than 5V will display "NOISE" symbol		
Auxiliary Ground Test	Auxiliary ground resistance test function: 0.00kΩ~30kΩ(100R+rC<50k , 100R+rP<50kΩ)		
Alarm Function	When measuring value exceeds alarm setting value, there is "Toot-toot-toot" alarm hint		
Battery Voltage	When battery voltage lower than 7.5V, will display low battery voltage symbol "⊕", and remind to replace battery.		
Overload Protection	Measuring earth ground resistance: between each interfaces of E-P-E-C, AC 280V/3 seconds		
Working Current	Standby: 45mA Max(Backlight close 25mA);Measurement:100mA Max(Backlight close)		
Accessories	Tester: 1PC; Grounding Rod: 4PCS; Test Wires: 4PCS; Simple test wires: 2PCS; USB Communication cable: 1PCS; Tester bag: 1PCS; Alkaline dry battery LR14 : 6 PCS		

ETCR3200C Double Clamp Earth Resistance Tester



Product Function

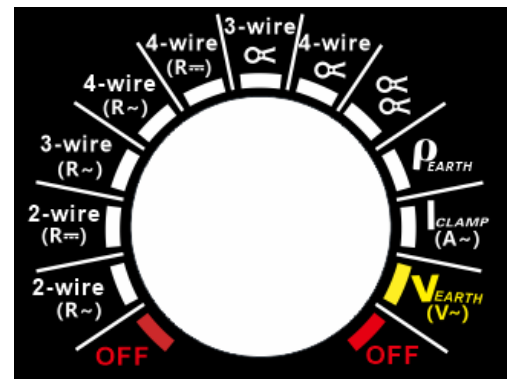
With 4-wire method, 3-wire method and simple 2-wire method, selection method, double clamp method to measure earth resistance, DC current soil resistivity, earth voltage, grounding lead leakage current.

Product features

- 1.Import FFT (Fast Fourier Transform Algorithm) and AFC (Automatic Frequency Control) technology. With unique antijamming capability and environmental adaptability, high consistency of retest.
- 2.Unique designed plug receptacle indicator, accurately indicating the location of the plug receptacle, operation convenient. With function selection knob, all test methods clear to display, operate simple and fast.
- 3.Package with waterproof protection box, waterproof, crash proof, anti-drop and durable, large-capacity rechargeable lithium battery pack, especially suitable for application at outdoor construction site
- 4.With the large LCD displayer of host machine, with white backlight and bar graph indication that can be seen clearly.
- 5.With alarm function, overload protection function, automatic shutdown function, also with the data storage, data access and data upload by USB interface function.
- 6.Support the bluetooth communication function of Android system, after installation the APP, mobile terminals can be used to testing operations and view test records.

Measurement Gears

Knob Gears	Function	Knob Gears	Function
OFF	Shutdown	3-wire	3-wire selection method measure earth resistance
2-wire (R~)	2-wire method measure earth resistance	4-wire	4-wire selection method measure earth resistance
2-wire (R=)	2-wire method measure DC resistance	Ω	Double clamp method measure earth resistance
3-wire (R~)	3-wire method measure earth resistance	ρ _{EARTH}	Wenner Method measure soil resistivity
4-wire (R~)	4-wire method measure earth resistance	I _{CLAMP} (A~)	Grounding current
4-wire (R=)	4-wire method measure DC resistance	V _{EARTH} (V~)	Grounding voltage



Technical Specification

Power Supply	DC7.4V 2600mAh rechargeable lithium battery		
2/3/4-wire Method Measure Earth Resistance	Range: 0.00Ω~300KΩ	Resolution: 0.01Ω	Accuracy: ±2%rdg±3dgt
Selection Method Measure Earth Resistance	Range: 0.00Ω~3000Ω	Resolution: 0.01Ω	Accuracy: ±2%rdg±3dgt
Double Clamp Method Measure Earth Resistance	Range: 0.00Ω~100Ω;	Resolution: 0.01Ω;	Accuracy: ±10%rdg±5dgt
Earth Voltage Measurement	Range: 0.0~100.0V AC;	Resolution: 0.1V;	Accuracy: ±2%rdg±3dgt
Earth current Measurement	Range: 0.0mA~600.0A	Resolution: 0.0mA;	Accuracy: ±2%rdg±3dgt
Soil Resistivity Measurement(ρ)	Range: 0.00Ωm~9000KΩm;	Resolution: 0.01Ωm	
CT Size	φ 70mm		
Short-circuit Test Current	AC 250mA max		
Open-circuit Test Current	AC 40V max		
Test Frequency	128Hz/111Hz/105Hz/94Hz (AFC)		
Data Storage	2000 groups		
Automatic Shutdown	15 Minutes after power on, will automatic shut down without any operation		
LCD Dimension	LCD Frame Dimension: 128mmX75mm; LCD Display Dimension: 124mmX67mm		
Tester Dimension	280mm(L)X260mm(W)X160mm(H)		
Total Weight	6130g(include accessories)		
Working Current	Standby: around 25mA (Backlight close); Measurement:100mA (Backlight close)		
Test Wires	Red 20m, yellow 20m, green 10m,black 10m, red 1.6m, black 1.6m (total 6 pcs wires)		
USB Interface	With USB interface. software monitoring, storage data can be uploaded to computer, saved and printed		
Bluetooth Communication	Support the bluetooth communication function of Android system, after installation the APP, mobile terminals can be used to testing operations and view test records		
Alarm Function	Measure value exceed alarm setting value, will "Toot-toot-toot" alarm indication		
Battery Voltage	While battery voltage decreases to around DC 7.2V±0.1V, will display low battery voltage symbol "⚡", and remind to replace the battery		
Accessories	Tester: 1PCS; Current Clamp Sensor: 2PCS; Ground Rod: 4PCS; Testing wires: 6PCS; USB communication cable : 1PCS; Special charger: 1PCS; Tester bag: 1PCS		

ETCR3300B Large-Scale Grounding Grid Earth Resistance Tester



Product Function

Measure the grounding impedance or resistance of large grounding devices, measure the conduction impedance or resistance between grounding devices, measure the soil resistivity, and measure the simple step voltage.

Product features

1. Equip with touch colorful screen, test function and selection are convenient and easy, and it is very convenient to reading the test results and historical records.
2. "HELP" button view the wiring diagram and operate instruction clear and obvious.
3. Output current is 1A ~ 5A, the voltage is 400V, and adopt with the automatic frequency conversion technology and software & hardware filtering technology, which make the tester have high anti-interference performance, test data will stable and reliable.
4. With the function of testing current stake and voltage stake, which is used to diagnose the faults of poor connecting lines, voltage and current stake.
5. With self-checking function, equip with 0.5Ω standard resistance, which can self-checking the tester at any time to ensure the accuracy of test results.
6. Supports Bluetooth communication of Android system. After installing the APP, can test or view the test results on the mobile.
7. With USB communication interface, the test results can be uploaded to the computer for easy query history and data analysis.
8. Equip with built-in printer, which can print test results on site.

Technical Specification

LCD	5 inch touch colorful screen
Impedance Measurement Range	0.000Ω ~ 2000Ω
Resolution	0.001Ω
Measurement Error	±2%rdg±5dgt
Step Voltage Measurement	In P, ES terminal connect with the human body simulated resistance (1.5 K Ω).
Anti-Power Frequency 50HZ Voltage Interference Ability	10V (50Hz)
Test Current Wave	Sine Wave
Test Current Frequency	Auto 40Hz/60Hz double frequency, multiple groups of variable frequency available for optional use
Maximum Current Output	5A
Output Current Class	1A , 2A , 3A , 4A , 5A
Maximum Voltage Output	400V
Power Supply	AC220V±10% , 50Hz
Size	460X380X320mm
Instrument Weight	The host weight: about 26KG, total wight: about 33KG (inlue accessories)
Data Storage	1000 groups
Bluetooth Communication	Yes, support the Android System
USB Interface	Yes, data upload function
Printer	Built-in type, can print the testing result on site
Grounding Rod	4PCS (80cm)
Working Temperature and Humidity	-10℃ ~40℃ ; 80%RH below
Withstand Voltage	AC 3700V/rms (between the circuit and shell)
Accessories	Host tester: 1PCS; Test line: 4PCS; Ground line: 1PCS; Power line: 1PCS; USB data cable: 1PCS, Ground stake: 4PCS; Self-checking standard resistor: 1PCS; 25A ceramic fuse: 4PCS; 2A fuse: 1PCS; Tool bag: 1PCS

ETCR3350 Large-Scale Grounding Grid Earth Resistance On-line Monitor



Product Function

Used for online monitoring the earth resistance, earth continuity, soil resistivity, step voltage, contact voltage, surface potential gradient, etc. of large-scale grounding devices.











Product features

1. Equipped with RS485 interface, the test data can be uploaded to PC or industrial computer to realize remote online monitoring of various grounding parameters.
2. Equip with touch color screen, test function and selection are convenient and easy, and it is very convenient to view test results and historical records.
3. "HELP" button can view the operation method and the wiring diagram clear and obvious.
4. The output current is 1A ~ 5A, voltage is 400V, and adopt the automatic frequency conversion technology and software and hardware filtering technology, which make the tester have high anti-interference performance, test data will stable and reliable.
5. With the function of testing current stake and voltage stake, which is used to diagnose the faults of poor connecting lines and poor grounding of voltage and current stake.
6. With self-checking function, equipped with 0.5Ω standard resistance, which can self-check the tester at any time to ensure the accuracy of test results.
7. Supports Bluetooth communication of Android system. After installing the APP, can test or view the test results on the mobile.

Technical Specification

Power Supply	AC220V±10%, 50Hz
Display Screen	5 inch touch colorful screen
Impedance Measurement Range	0.000Ω ~ 2000Ω
Resolution	0.001Ω
Measurement Error	±2%rdg±5dgt
Soil Resistivity Measurement Range	0Ωm~125kΩm (Depends on resistance measurement range and test length)
Soil Resistivity Measurement Accuracy	According to the measrment accuracy of $R(\rho=2\pi aR; a: 1\text{ m} \sim 100\text{m}; \pi=3.14)$
Anti-Power Frequency/ Voltage Interference Ability	10V (50Hz)
Test Current Wave	Sine Wave
Test Current Frequency	Choose one or two frequency points arbitrarily between 40Hz and 60Hz
Maximum Current Output	5A
Output Current Grade	1A, 2A, 3A, 4A, 5A
Maximum Voltage Output	400V
Tester Size	450X296X280mm
Instrument Weight	The host weight: about 26KG, total wight: about 37.6KG (inclue accessories)
Data Storage	1000 groups
Communication Interface	RS485 interface, data upload function
Bluetooth Communication	Support Android System
Working Temperature and Humidity	-10°C ~40°C ; 80%rh below
Withstand Voltage	AC 3700V/rms (between the circuit and shell)
Accessories	Host tester: 1PCS; Test line: 4PCS; Ground line: 1PCS; Power line: 1PCS; USB data cable: 1PCS, Ground stake: 4PCS; Self-checking standard resistor: 1PCS; 25A ceramic fuse: 4PCS; 2A fuse: 1PCS; Tool bag: 1PCS

ETCR300 Ground Resistance Test Line and Accessories

Model	Picture	Accessories Specifications	Remark
Test Line ETCR300-3.5*L		Wire core 0.75 square millimeter, wire diameter Φ 3.5 mm; Banana plug + test line + ground clip Four colors: red, yellow, green and black Line length and color can be customized according to user requirements	
Test Line ETCR300-3.8*L		Wire core 2.0 square millimeter, wire diameter Φ 3.8 mm Banana plug + test lead + ground clip Four colors: red, yellow, green and black Line length and color can be customized according to user requirements	Suitable for grounding resistance test of earth grid
Spool ETCR300-30M		Wire wrapping 30 m (Φ 3.5mm) Spool Weight:315g	
Spool ETCR300-50M		Wire wrapping 50m (Φ 3.5mm) Spool Weight:455g	
Spool ETCR300-100M ETCR300-200M ETCR300-300M		Wire wrapping 100m (Φ 3.5mm) Wire wrapping 200m (Φ 3.5mm) Wire wrapping 300m (Φ 3.5mm) Spool Weight:3.3Kg	
Spool ETCR300-400M		Wire wrapping 400m (Φ 3.8mm) Spool Weight:3.5Kg	Suitable for grounding resistance test of earth grid
Roller Type Spool ETCR300-800M		Wire wrapping 800m (Φ 3.8mm) Spool Weight:4.6Kg	Suitable for grounding resistance test of earth grid
T-shaped Ground Pin ETCR300-240T		Nickel Steel 240mm (4 Pcs/Set) Weight:823g/set	
Ground Pin ETCR300-800T		Nickel Steel 800mm (2 Pcs/Set) Weight:1580g/set	Suitable for grounding resistance test of earth grid
Insulation Resistance Meter Electrode Plate ETCR340-DJB30		Epoxy resin material, pole distance 2cm, Rod length 30cm, line length 1.5m, with clip Weight: about 504g/ set	Suitable for insulation resistance meter

ETCR3440A/3440B Insulation Resistance Tester



Product Function

Suitable for measuring insulation resistance of various electrical equipment and insulation materials such as motors, cables, switches, electrical appliances, etc., and maintenance, testing and calibration of various electrical equipment.

Product features

1. Max output voltage 2500V, max test resistance value 40GΩ, short current $\geq 1\text{mA}$.
2. Insulation resistance value, test time, and output voltage display on same screen.
3. Short circuit output current 1mA.
4. Exquisite structure, high accuracy, simple and reliable operation, and easy to carry.

Technical Specification

Model	ETCR3440A	ETCR3440B
Rated Voltage	250V; 500V; 1000V	500V; 1000V; 2500V
Output Voltage Accuracy	$\pm 10\%$	$\pm 10\%$
Insulation Resistance Range	0.25MΩ~10GΩ	0.5MΩ~50GΩ
Insulation Resistance Accuracy	$\pm 5\% \text{rdg} \pm 5 \text{dgt}$	$\pm 5\% \text{rdg} \pm 5 \text{dgt}$
Voltage Range	AC 0V~600V	AC 0V~600V
Voltage Accuracy	$\pm 1\% \text{rdg} \pm 5 \text{dgt}$	$\pm 1\% \text{rdg} \pm 5 \text{dgt}$
Short Circuit Current	$\geq 1\text{mA}$	$\geq 1\text{mA}$
Power Supply	DC9V Alkaline dry battery LR14 1.5VX6PCS	
Shift	Press FUNC key to power on and selection test function	
Display Mode	4-digital LCD display, Max. display: 3999	
Tester Dimension	150mm(L)X101mm(W)X59mm(H)	
Weight	Tester: 422g(include battery); Total weight: 0.9kg(include accessories)	
Insulation Measurement Time	1/2/4/10 minutes	
Battery Voltage	Battery low voltage symbol display, and remind to replace battery	
Automatic Shutdown	15 minutes without any operation after starting up, the tester will shutdown automatically	
Power Consumption	Max. power consumption: 4.5W, Min.power consumption: 18mW, Hibernate power consumption: $< 80\mu\text{W}$	
Working Environment	0°C ~40°C ; Below 75%RH	
Accessories	Tester: 1PCS; High voltage test probe: 2PCS red; Pen probe test line: 1PCS black; Alligator clip: 3PCS(red 2PCS/ black 1PCS); Tool bag: 1PCS; LR14 battery: 6PCS	

ETCR3460A/3460B/3480A/3480B Insulation Resistance Tester



Product Function

Suitable for measuring the insulation resistance of electric motor, switch, electrical appliance and other electrical equipment and insulation materials.

Product Features

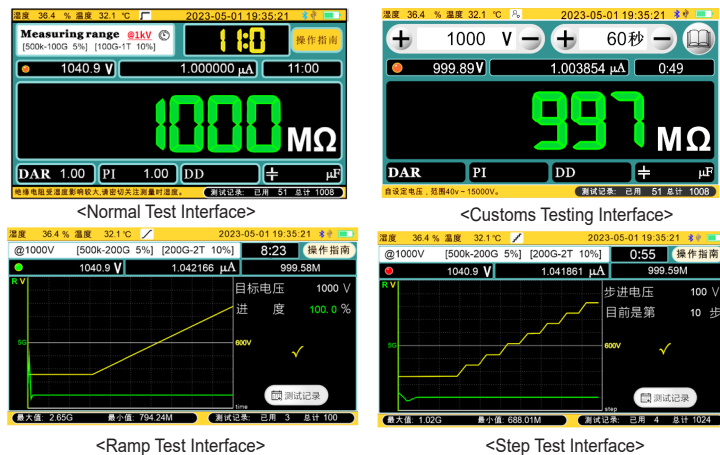
1. Max output voltage 5000V, Max test resistance 400GΩ, Max short circuit current 2mA
2. Insulation resistance value, test time and output voltage are displayed on the same screen.
3. Safe structure and improved circuit new design, more complete function, higher accuracy, more convenient and reliable operation.
4. Perfect protection circuit, which can effectively prevent the damage of counter voltage.
5. The host with large LCD display, white screen and backlight, bar chart indication, clear and obvious.

Technical Specification

	ETCR3460A	ETCR3460B	ETCR3480A	ETCR3480B
Model				
Rated Voltage	50V~2500V	50V~5000V	50V~2500V	50V~5000V
Output Voltage Accuracy	(5% ~ 10%)±10V	(5% ~ 10%)±10V	(5% ~ 10%)±10V	(5% ~ 10%)±10V
Insulation Resistance Range	0.1MΩ ~ 200GΩ	0.1MΩ~ 1000GΩ	0.1MΩ ~ 200GΩ	0.1MΩ~ 1000GΩ
Max Insulation Resistance Accuracy	±3%rdg±5dgt			
Voltage Range	AC/DC:0V~750V			
Voltage Accuracy	±5%rdg±5dgt			
Output Short Circuit Current	2mA Max			
Dielectric Absorption Ratio Test	-		YES	
Polarization Index Test	-		YES	
Power Supply	DC9V Alkaline dry batteries 1.5V LR14X6PCS/ Optional lithium battery DC 7.4V, 2600mAh			
Shift	Turn the shift rotary knob to select the appropriate gear			
Backlight	Controllable off-white backlight, suitable for dark places			
Display Mode	4 digital LCD display, LCD size: 108mmX65mm			
Meter Dimension	212mmX175mmX76mm			
Weight	Tester: 1230g(include battery); Total weight: 2.4kg(include accessories and packing)			
Battery Voltage	Battery undervoltage symbol display, when battery voltage is low will remind to replace the battery in time			
Automatic Discharge Function	Automatically releases the voltage of the measured object, when discharging flashes display symbol, after discharge, "⚠" symbol disappea			
Auto Shutdown	15 minutes after boot up, the meter shuts down automatically without any operation			
Power Consumption	Standby: about 40mA (backlight off); Start up with backlight: about 50mA; Measurement: about 100mA (backlight off)			
Working Environment	-10°C ~40°C ; below 80%RH			
Suitable Safety Standard	IEC61010-1 (CAT III 300V, CAT IV 150V, Pollution 2)			
Accessories	Tester:1PCS; High voltage probe teste line: 1PCS red; Pen probe test line: 1PCS black; Alligator clip test line: 1PCS black; Alligator clip: 1PCS(black);Tool bag: 1PCS; LR14 battery: 6PCS			

ETCR3500/3500B High Voltage Insulation Resistance Tester

- ◆ Max Output Voltage 50V~10kV
- ◆ Test Resistance 0.005MΩ~10TΩ
- ◆ Max Short Circuit Current 5mA
- ◆ Polarization Index Test (PI)
- ◆ Dielectric Absorption Ratio Test (DAR)
- ◆ Step Test Mode (STEP)
- ◆ Ramp Test Mode (RAMP)
- ◆ Custom Setting Output Voltage
- ◆ Custom Setting Test Time 10s~60min
- ◆ Large Capacity Rechargeable Lithium Battery
- ◆ USB Communication
- ◆ Bluetooth Communication



Product Function

Suitable for insulation resistance testing of cable, motor, generator, transformer, mutual inductor, high voltage switch, arrester and other large equipment. Insulation resistance test (IR); polarization index test (PI); Dielectric absorption ratio test (DAR); Step test(STEP); Ramp test (RAMP). AC/DC Voltage test(V)..

Product Feature

1. Touch colorful screen, and the test data will be displayed on the same screen. It is very convenient to test operation and view history record.
2. With the unique strong anti-interference technology and stable testing capabilities in large distributed capacitance site (such as long cables) and strong electromagnetic interference environments (such as substations).
3. Perfect measurement index: insulation resistance (IR), polarization index (PI), dielectric absorption ratio (DAR), step (STEP), ramp (RAMP), AC/DC voltage (V).
4. Custom setting measurement mode, optional PI and DAR calculation formulas, custom setting test voltage and custom setting test duration, which can provide variety of options to user and convient the special site request.
5. Voltage monitor: Automatically monitoring the live voltage of the measured object. when the voltage exceed 36V and will automatically prohibit to test to effectively protect the instrument and the operator.
6. Current monitor: Automatic display the current of test circuit
7. Temperature monitor: Automic display the temperature and humidity of tester inside.
8. Automatic discharge function, automatically and quickly release the electric charge of the measured object after the test, no need the external discharge circuit.
9. Large-capacity test record memory, test records can be directly browsed and analyzed in the tester. the tester can automatically store 1000 sets of real-time test data with test date and test time.
10. USB communication and upload function, the recorded data can be uploaded to the computer for stored statistical analysis.
11. Bluetooth communication function, can upload the test results to the mobile phone.

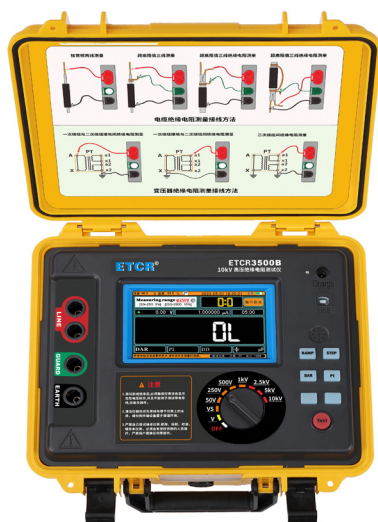
ETCR3500/3500B High Voltage Insulation Resistance Tester

Insulation Resistance Measurement Accuracy

Rated Voltage		50V	250V	500V	1000V	2500V	5000V	10kV
Range & Accuracy	±5%	5.00GΩ	25.0GΩ	50.0GΩ	100.0GΩ	250GΩ	500GΩ	1.00TΩ
	±10%	50GΩ	250GΩ	500GΩ	1.00TΩ	2.50TΩ	5.00TΩ	10.0TΩ

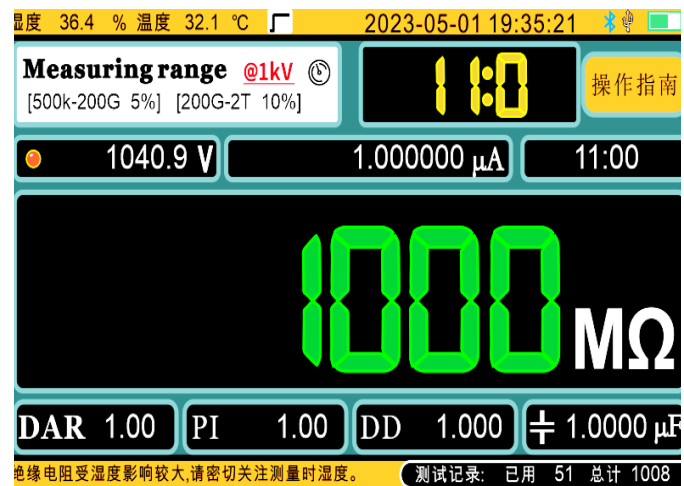
Technical Specifications

Model	ETCR3500	ETCR3500B
Power Supply	Rechargeable lithium battery pack 5.2Ah 14.8V	
Rated Voltage	50V, 250V, 500V, 1000V, 2500V, 5000V	50V, 250V, 500V, 1000V, 2500V, 5000V, 10kV
Output Voltage Accuracy	+4%±10V (when 50V: +4%±2V)	
Insulation Resistance Range	0.005MΩ~5.00TΩ	0.005MΩ~10.00TΩ
Short Circuit Current	5mA MAX	
Voltage Measurement	Range: 0V~1000V; Accuracy: ±5%rdg±3V	
Custom Setting Output Voltage	ETCR3500: 40~5kV; ETCR3500B: 40V~10kV	
Customs Setting Test Time	10s~3600s	
Polarization Index (PI)	Yes	
Dielectric Absorption Ratio (DAR)	Yes	
Step Voltage(STEP)	Yes	
Ramp(RAMP)	Yes	
Real Time Current Display	Display test current value, current range: 0.001nA~5 mA	
Real Time Voltage Display	Real time monitoring the voltage of the measured terminal. when the voltage exceed 36V and will automatically prohibit to test to effectively protect the instrument and the operator.	
Test Timer	Automatic record test time, time range: 0s~9999s	
Storage Function	Automatically store the test data total of 1000 groups, which can display, replay store test record	
USB Communication	Yes, upload the test record to PC through the USB cable	
Bluetooth Communication	Yes, can connect to the Android mobile or others with the buletooth communication device	
Battery Power Indication	With the battery power indication, when battery voltage low will remind to charge in time	
Automatic Shutdown	After 15 minutes start up will shut down automatically without any operation	
Tester Dimension	280mmX260mmX160mm	
Tester Weight	Host: 3344g (with rechargeable battery); total weight:5.6kg (include all accessories)	
Protection Level	Close the case IP65, open the case IP40	
Maximum immunity to noise/ interference	6mA	
Working Environment	-20°C ~ 50°C , 80%RH	
Withstand Voltage	AC 3Kv 50Hz 1min (between the test circuit and shell)	
Suitable Safety Standard	IEC61010-1, IEC61326-1	
Accessories	Host: 1PCS, high voltage test wire: 1PCS, Test wire (green): 1PCS; Test wire (black): 1PCS; Alligator clip: 1PCS; Hook 1PCS; Power adaptor 1PCS; USB communication cable 1PCS; Tool bag: 1PCS	



ETCR3520/3520B/3520C High Voltage Insulation Resistance Tester

- ◆ Output Voltage 50V~ 15kV
- ◆ Test Resistance 0.005MΩ~ 30TΩ
- ◆ Max Short Circuit Current 7mA
- ◆ Polarization Index Test (PI)
- ◆ Dielectric Absorption Ratio Test (DAR)
- ◆ Step Test Mode (STEP)
- ◆ Ramp Test Mode (RAMP)
- ◆ Dielectric discharge index(DD)
- ◆ Capacitance Test (CAP)
- ◆ Custom Setting Output Voltage
- ◆ Custom Setting Test Time 10s~60min
- ◆ Large Capacity Rechargeable Lithium Battery
- ◆ USB Communication
- ◆ Bluetooth Communication



Product Function

Suitable for the insulation resistance test of large-scale electrical equipment and transmission cable in large-capacity, high-voltage, and strong-inductive electrical environments.

Insulation resistance test (IR); polarization index test (PI); Dielectric absorption ratio test (DAR); Step test(STEP); Ramp test (RAMP); Dielectric discharge index test(DD). AC/DC Voltage test(V); Distributed capacitance test(CAP).

Product Features

1. Touch colorful screen, and the test data will be displayed on the same screen. It is very convenient to test operation and view history record.
2. With the unique strong anti-interference technology and stable testing capabilities in large distributed capacitance site (such as long cables) and strong electromagnetic interference environments (such as substations).
3. Perfect measurement index: insulation resistance (IR), polarization index (PI), dielectric absorption ratio (DAR), step (STEP), ramp (RAMP), dielectric discharge index (DD), distributed capacitance (CAP), AC/DC voltage (V).
4. Custom setting measurement mode, optional PI and DAR calculation formulas, custom setting test voltage and custom setting test duration, which can provide variety of options to user and convient the special site request.
5. Voltage monitor: Automatically monitoring the live voltage of the measured object. when the voltage exceed 36V and will automatically prohibit to test to effectively protect the instrument and the operator.
6. Current monitor: Automatic display the current of test circuit
7. Temperature monitor: Automic display the temperature and humidity of tester inside.
8. Automatic discharge function, automatically and quickly release the electric charge of the measured object after the test, no need the external discharge circuit.
9. Large-capacity test record memory, test records can be directly browsed and analyzed in the tester. the tester can automatically store 1000 sets of real-time test data with test date and test time.
10. USB communication and upload function, the recorded data can be uploaded to the computer for stored statistical analysis.
11. Bluetooth communication function, can upload the test results to the mobile phone.

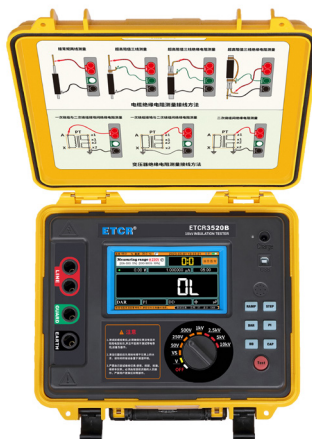
ETCR3520/3520B/3520C High Voltage Insulation Resistance Tester

Insulation Resistance Measurement Accuracy

Rate Voltage	50V	250V	500V	1000V	2500V	5000V	10kV	15kV
Range & Accuracy	±5% 10.0GΩ	±20% 50.0GΩ	100GΩ	200GΩ	1.00TΩ	2.00TΩ	4.00TΩ	6.00TΩ
			1.00TΩ	2.00TΩ	5.00TΩ	10.0TΩ	20.0TΩ	30.0TΩ

Technical Specifications

Model	ETCR3520	ETCR3520B	ETCR3520C
Rated Voltage	50V, 250V, 500V, 1000V, 2500V, 5000V	50V, 250V, 500V, 1000V, 2500V, 5000V, 10kV	50V, 250V, 500V, 1000V, 2500V, 5000V, 10kV, 15kV
Output Voltage Accuracy	+4%±10V (when 50V: +4%±2V)	+4%±10V (when 50V: +4%±2V)	+4%±10V (when 50V: +4%±2V)
Insulation Resistance Range	0.005MΩ~10.0TΩ	0.005MΩ~20.0TΩ	0.005MΩ~30.0TΩ
Short Circuit Current	7mA MAX	7mA MAX	7mA MAX
Power Supply	Rechargeable lithium battery pack 6.2Ah 14.8V		
Capatiance Measurement	Range: 10nF~200uF; Accuracy: ±10%rdg ± 10nf		
Voltage Measurement	Range: 0V~1000V; Accuracy: ± 5%rdg ±3V		
Custom Setting Output Voltage	ETCR3520: 40V~5kV ETCR3520B: 40V~10kV ETCR3520C: 40V~15kV		
Custom Setting Test Time	10s~3600s		
Polarization Index (PI)	Yes		
Dielectric Absorption Ratio (DAR)	Yes		
Step Voltage (STEP)	Yes		
Ramp (RAMP)	Yes		
Dielectric discharge index (DD)	Yes		
Real Current Value	Display test current value, current display range: 0.001nA~7.5mA		
Real Voltage Value	Automatically monitoring the voltage of the measured object. when the voltage exceed 36V and will automatically prohibit to test to effectively protect the instrument and the operator.		
Test Timer	Automatically record test duration, timing range: 0s~9999s		
Store Function	Automatically store the test date, time and timing, total of 1000 groups, which can view and replay the stored test record		
USB Communication	Yes, upload the test record to PC through the USB cable		
Bluetooth Communication	Yes, can connect to the Android mobile or others with the buletooth communication device		
Battery Power Indication	With the battery power indication, when battery voltage low will remind to charge in time		
Automatic Shutdown	After 15 minutes start up will shut down automatically without any operation		
InsturmentDimension	280mmX260mmX160mm		
Instrument Weight	Host: 3737g (with rechargeable battery); total weight: 5.72kg (include all accessories)		
Protection Level	Close the case IP65; open the case IP40		
Maximum immunity to noise/interference	8mA		
Working Environment	-20°C ~50°C ; 80%RH		
Withstand Voltage	AC 3Kv 50Hz 1min (between the test circuit and shell)		
Suitable Safety Standard	IEC61010-1, IEC61326-1		
Accessories	Host tester: 1PCS; High voltage test line(red): 1PCS; Test line (green): 1PCS; Test line (black): 1PCS; Alligator clip: 1PCS; Hook: 1PCS; Power adaptor: 1PCS; USB communication cable 1PCS; Tool bag: 1PCS		



ETCR3580/3580B Insulation Resistance On-line Monitor



Product Function

Apply for online monitoring the insulation resistance value of various electrical equipment and insulation materials such as cables, motors, switches, electrical appliances, etc.

Product Features

1. The tested loop circuit must not live when in testing.
2. Insulation resistance value testing up to Max 8 channel loop circuit.
3. With two modes of manual measurement and RS485 remote measurement, and have Bluetooth control measurement mode.

Technical Specifications



Model	ETCR3580	ETCR3580B
Output Voltage	500V	50V, 100V, 250V, 500V, customs
Short-circuit Current	2mA Max	2mA Max
Resistance Range	0.1MΩ~10GΩ	0.1MΩ~20GΩ
Accuracy	±5%rdg±5dgt	±5%rdg±5dgt
Measurement Mode	Manual measurement, RS485 remote measurement,	Manual measurement, RS485 remote measurement, Bluetooth control measurement
Test Time	60s	Insulation resistance: 20s; Dielectric absorption ratio (DAR): 1minute; Polarization index (PI): 10minutes; RS485 or Bluetooth communication to control and customs test time 1s~10minutes
Communication Mode	RS485 communication	RS485 communication, Bluetooth communication
Data Transmission	Insulation resistance, dielectric absorption ratio (DAR)	Insulation resistance, output voltage, leakage current, dielectric absorption ratio (DAR), polarization index (PI)
Power Supply	DC 12V (External power supply)	
Test Loop Channel	1~8 Channel	
LCD Displayer	Display output voltage, leakage current, insulation resistance value, dielectric absorption ratio (DAR)(3580B) and polarization index (PI) of present testing circuit loop (3580B)	
Indicator	Power indication, testing indication, RS485 communication	
Button	Test button, set the test parameter and set the meter address	
Installation Mode	Guide rail installation or mounting screw installation	
Power Consumption	Standby 0.8W, MAX 12W	
Weight	About 0.6kg(include package)	
Dimension	169mmX104mmX73mm	
Working Temperature	-20°C ~60°C ; 80%RH	
Accessories	Monitor: 1PCS; 5P wiring terminal: 1PCS; Guide rail clip: 2PCS	

ETCR3650 Grounding Down Lead Continuity Tester



Product Function

Used for measuring the conductive resistance value between the grounding down Lead of power equipment and the grounding network, and measuring the conductor DC resistance.

Product features

1. The tester has two power supply modes: AC 220V and built-in large-capacity lithium battery, which can meet the user's requirements in various sites.
2. Two measurement modes, automatic measurement mode: the test current can be automatically selected according to the load. Manual measurement mode: 4 test current gears are available.
3. The maximum output voltage is 24V, the maximum test current is 10A, and the test speed is fast. It can be applied to various grounding network continuity resistance and other DC resistance measurements.
4. Equip with 5-inch true colorful LCD touch screen, which is dual-purpose touch screen/button for measurement and operation. And equip with built-in printer, Bluetooth communication, USB interface

Technical Specification

Measurement Method	Precision 4-wire method, two channel A/D simultaneous detection
Power Supply	AC 220V
Built-in Lithium Battery	DC 22.2V 5200mAh
Measurement Range	1.000mΩ~10.00Ω AUTO
	1.000mΩ~20.00mΩ 10A
	10.00mΩ~200.0mΩ 5A
	100.0mΩ~2.000Ω 1A
	1.00Ω~10.00Ω 100mA
Max Resolution	1uΩ
Measurement Accuracy	0.5%FS
Test Current Gear	AUTO, 10A, 5A, 1A, 100mA
Output Voltage	24V MAX
Measurement Radius	50m
Measurement Time	Sampling AD speed 1s/time
Alarm Function	Can set the alarm value, When the test value exceeds the alarm setting value, the buzzer will have alarm sound prompt
Data Storage	The results are displayed automatically after each testing, data storage 600 groups (data will not be lost after power failure or battery replacement)
Discharge Function	Automatic discharge after testing, and discharge indication clear, avoid the misoperation
Automatic Shutdown	After setting automatic shutdown, 15 minutes without any operation after starting up will automatic shutdown
Display Mode	5 inch colorful touch screen, resolution: 480X854
Host Dimension	280mmX260mmX160mm
Weight	Total weight: 20.1kg(include all accessories)
Printer	Built-in printer
Bluetooth Communication	Yes, after installing the APP, can view the test result on mobile
USB Interface	With USB interface, software monitoring, storage data can be uploaded to computer, save and print.
Withstand Voltage	AC 3700V/rms(between the housing and screws)
Accessories	Tester: 1PCS; Power Line: 1PCS; Test Line: 2PCS(each 1PCS of red and black); Ground lead: 1PCS; Charger: 1PCS; USB communication cable: 1PCS; 3.75mΩ standard resistor: 1PCS; Print paper: 1roll; Tool Case: 1PCS

ETCR3660 DC Current Resistance Tester



Product Function

Used for measuring transformer winding resistance, conductor DC resistance, cable length, etc.

Product features

1. The maximum output voltage of the instrument is 24V, and the maximum test current is 10A. It has a fast test speed and can be applied to the measurement of transformers and other resistances.
2. There are two measurement modes: automatic measurement mode, which can automatically select the test current based on the load; Manual measurement mode: has 6 test current gear can be choose.
3. With Bluetooth communication function, user can make the testing operate and view the test result after installing the APP. The tester also with USB interface and monitoring software, which can communicate with computer.
4. With discharge function, which can automatically discharges after testing. with 75° conversion resistance function, which can compensates for the material temperature of the tested object.
5. With alarm function, can set resistance alarm value. Additionally, the tester has automatic shutdown function, which will automatically shut down after 15 minutes without any operation when the automatic shutdown is set.

Technical Specification

Power Supply	DC 22.2V 5200mAh rechargeable lithium battery		
Measurement Mode	Automatic, Manual		
Measurement Range	1.0uΩ~50kΩ		
Range & Test Current	1.0uΩ~50.00kΩ	AUTO	
	1.0uΩ~20.00mΩ	10A	0.2%FS
	10.00mΩ~200.0mΩ	5A	0.5%FS
	100.0mΩ~2.000Ω	1A	1%FS
	1.000Ω~0.00Ω	100mA	1%FS
	10.00Ω~200.0Ω	≤10mA CVT	1%FS
	100.0Ω~50.00kΩ	≤1mA CVT	1%FS
Max Resolution	0.1uΩ		
Measurement Accuracy	0.2%		
Test Current Gear	10A, 5A, 1A, 100mA, 10mA, 1mA, AUTO		
Output Voltage	24V MAX		
Alarm Setting	Alarm critical value setting range; 1mΩ~2500Ω, 0Ω is not start the alarm function. Do not active the alarm function every starting up.		
Alarm Warning	When the test value exceeds the alarm setting value, the buzzer will alarm prompt with sound		
Low Voltage Indication	When battery voltage is lower than DC 22V±0.1V, low battery voltage symbol will display and remind to charge in time		
Data Storage	600 groups (data will not be lost after power failure or battery replacement)		
Automatic Shutdown	After setting automatic shutdown, the tester will automatic shutdown after 15 minutes without any operation		
LCD Dimension	108mmX65mm		
Host Dimension	280mmX260mmX160mm		
Weight	Total weight: 5.8kg(include all accessories)		
Bluetooth Communication	Yes		
USB Interface	With USB interface, software monitoring, storage data can be uploaded to computer, save and print.		
Withstand Voltage	AC 3700V/rms (between the housing and screws)		
Accessories	Tester: 1PCS; Test wires (3meters): 2PCS; USB communication cable: 1PCS; Special charger: 1PCS; Tool bag : 1PCS		

ETCR3670 Transformer DC Resistance Tester



Product Function

Used for fast measurement of various transformer windings DC resistance and conductor DC resistance measurement.

Product features

- 1.The tester has two power supply modes: AC 220V and built-in large capacity lithium battery, which can meet the requirement in various sites.
- 2.Two measurement modes: automatic measurement mode: the test current can be automatically selected according to the load; Manual measurement mode: 7 gears test current can be choose.
- 3.The maximum output voltage is 24V, the maximum test current is 10A, and the test speed is fast, which can be applied to various transformers and other resistance measurements.
- 4.Equip with 5-inch true-color LCD touch screen, which is dual-purpose for measuring and operating with touch screen/press buttons. With built-in printer, Bluetooth communication, USB interface.
- 5.With automatic discharge function, with 75° conversion resistance function, which can compensates for the material temperature of the tested object.

Technical Specification

Power Supply	AC 220V/Built-in rechargeable lithium battery DC 22.2V 5200mAh		
Measurement Mode	Automatic, Manual		
Measurement Range	1.0uΩ~50.00kΩ		
Range & Test Current	200.0uΩ~50.00kΩ	AUTO	
	200.0uΩ~20.00mΩ	10A	0.2%FS
	10.00mΩ~200.0mΩ	5A	0.5%FS
	100.0mΩ~2.000Ω	1A	1%FS
	1.000Ω~20.00Ω	100mA	1%FS
	10.00Ω~200.0Ω	10mA CVT	1%FS
	100.0Ω~50.00kΩ	1mA CVT	1%FS
Max Resolution	0.1uΩ		
Measurement Accuracy	0.2%±2dgt		
Test Current Gear	AUTO, 10A, 5A, 1A, 100mA, 10mA, 1mA		
Output Voltage	24V MAX		
Temperature Measurement Range	-55°C ~125°C		
Data Storage	600 groups (data will not be lost after power failure or battery replacement)		
Conversion Resistance Calculation	Conversion according to the tested object temperature and material		
Discharge Function	After testing discharge automatic, discharge indication clear and avoid the wrong operation		
Automatic Shutdown	After setting automatic shutdown, the tester will automatic shutdown after 15 minutes without any operation		
Display Mode	5 inch colorful touch screen, resolution ratio 480X854		
Host Dimension	280mmX260mmX160mm		
Weight	Total weight: 6.4kg(include all accessories)		
Printer	Built-in printer		
Bluetooth Communication	Yes		
USB Interface	With USB interface, software monitoring, storage data can be uploaded to computer, save and print.		
Accessories	Tester: 1PCS; Power line: 1PCS; Test wires(10meters): 2PCS; Earth line: 1PCS; Charger: 1PCS; Temperature sensor; 1PCS; USB communication cable: 1PCS; 3.75mΩ standard resistance: 1PCS; Tool bag: 1PCS; Print paper: 1roll		

ETCR3690/3690C Contract Loop Resistance Tester(Handheld Type)



Product Function

Used for measuring the small resistance of high voltage switches, circuit breakers, relay metal contacts, etc.

Product features

- 1.5-inch touch colorful screen, large-capacity power lithium battery, handheld type structure, easy to carry and simple to operate.
- Max. test current up to 100A, comply with the power standard of the "DL/T845.4-2004".
- Anti-power frequency interference, meet the application request of 1000KV substation.
- The housing insulation, sealing, anti-leakage, anti-wind & sand, shock protection and other functions.
- Max. store 1000 groups data and will not lose data when power is off.
- The instrument has Bluetooth communication, USB interface, automatic shutdown and other functions.
- The instrument has overheat protection function, which will stop testing when the internal temperature is too high.
- *The C model equipped with a thermal printer, which can print test results on site.

Technical Specification

Product Model	ETCR3690	ETCR3690C
Measurement Range	0.0uΩ~10.000mΩ	0.0uΩ~80.000mΩ
Test Current(DC)	50A, 100A(2 gear)	10A,20A,30A,40A,50A,60A,70A,80A,90A,100A(10 gears)
Test Time	Fast, 10s, 20s, 30s, 40s, 50s, 60s	Fast, 1~60s (customize)
Weight	Approx. 5.74kg(include accessories)	Approx. 6.07kg(include accessories)
Test Method	Precision 4-wire method, 2 channels A/D simultaneous detection	
Power Supply	DC 7.4 V 17600mAh rechargeable lithium battery	
Max Resolution	0.1uΩ	
Output Voltage	Approx. 3.7V	
Test Current Accuracy	±5%	
Measurement Time	> 500 times (100A fast mode)	
Overflow Display	Over-range overflow function: The meter displays over-range, please check the wiring	
Battery Power Indicator	Real-time display of current battery power	
Data Storage	1000 groups (data will not be lost after power failure or battery replacement)	
Data Hold	After test, the test results will be automatically displayed.	
Automatic Shutdown	After setting automatic shutdown, the tester will automatic shutdown after 15 minutes without any operation	
Test Wire	Red*1PCS; Black*1PCS	
Display mode	5-inch true color LCD touch screen	
Host Dimension	263mmX152mmX74mm	
Working Temperature & Humidity	-10°C ~40°C ; below 80%RH	
Storage Temperature & Humidity	-10°C ~60°C ; below 70%RH	
Bluetooth Communication	Yes, can communicate with mobile terminals	
External Printer	Bluetooth thermal printer, powered by lithium battery 7.4V 1200mAh (only Type C)	
USB Interface	With USB interface, software monitoring, storage data can be uploaded to computer, save and print.	
Withstand Voltage	AC 3700V/rms(between the housing and screws)	
Safety Regulations	IEC61010-1, CAT III 600V, Pollution Degree 2, JJG724-1991 "Verification Regulation for DC Digital Ohmmeters", JJG166-1993 "Verification Regulation for DC Resistors", DL/T967-2005 "Verification Regulation for Loop Resistance Testers and Rapid DC Resistance Testers", JJG 1052-2009 "Verification Regulation for Loop Resistance Testers and DC Resistance Meters", DL/T845.4-2004 "General Technical Specifications for Resistance Measurement Devices Part 4: Loop Resistance Testers"	
Accessories	Tester: 1PCS; Test lines: red*1PCS; black*1PCS; USB communication cable: 1PCS; 0.5mΩ standard resistor: 1PCS; Power adapter: 1PCS; Tool bag : 1PCS; Printer: 1PCS (Type C only); Printer charger: 1 PCS(Type C only)	

ETCR3800A/3800B Lightning Protection Component Tester



Product Function

Used for testing the pressure-sensitive resistance (MOV), discharge tube (GDT) and other lightning protection components performance parameters and the insulation resistance (Mohm), polarization index test (PI), dielectric absorption ratio test (DAR).

Product features

- 1.The new generation of intelligent lightning protection component tester, adopts touch color screen, click "HELP" key on the screen to pop up the operation method, effectively guiding the user to operate the instrument.
- 2.The tester with stable output voltage up to 3000V, can meet the testing requirements of various components..
- 3.The instrument has the function of professional parameters setting: booster speed setting, high voltage limit setting , qualified range setting ,and qualified judgment condition setting, mak the test convenient and easy..
- 4.With the choice of single test mode and continuous test mode, continuous test mode is especially suitable for batch component testing.
- 5.Automatic storage of test results containing date and time, can store 3000 groups of test records, data upload function by USB interface.Adopt with large capacity rechargeable lithium battery.

Technical Specification

1. Range and Measurement Accuracy

Measure Function	Output Voltage	Measure Range	Accuracy	Resolution	Test Condition
MOV	Initial action voltage U (1mA)	50 ~ 3000V	$\pm 2\%rdg \pm 3dgt$	0.1V	1mA $\pm 5\mu A$
	Leakage Current I(0.75U, 1mA)	0 ~ 1000 μA	$\pm 2\%rdg \pm 10dgt$	0.01 μA	0.75U1mA $\leq \pm 1\% \pm 1d$
GDT	DC breakdown voltage V _{sdc}	50 ~ 3000V	$\pm 2\%rdg \pm 3dgt$	0.1V	100V/S $\pm 10\%$
*Insulation resistance	500V	0.5M Ω ~ 2G Ω	$\pm 5\%rdg \pm 10dgt$	0.1M	Only for ETCR3800B
	2500V	2.5M Ω ~ 10G Ω	$\pm 5\%rdg \pm 10dgt$	0.1M	

2. Others Technical Parameters

Power Supply	DC 7.4V 2600mAH rechargeable lithium battery
Display Mode	5-inch TFT color touch screen
Shift	Automatically
Display Mode	Touch color LCD, LCD size: 108mm \times 65mm
Host Dimension	215mm \times 178mm \times 83mm
Weight	2.09kg(include accessories)
Test Wire	Red wire 1.5M, black wire 1.5M
Step Up Voltage Speed Setting	Total 5 step up levels
High Voltage Threshold Value Setting	Adjusting with step "250V", the maximum can be set to 3000V
Qualified Range Setting	Yes
Qualified Judgement Condition Setting	Can set the voltage or leakage current as the qualified judgement condition
Qualified Judgment Function	Buzzer indication, qualified ring once, unqualified three rings
Test Mode	Single: One-click test without preset. Continuous: The voltage can be preset, and continuous testing is quick and fast
Insulation Resistance Test Function	Insulation resistance (Mohm), polarization index (PI), dielectric absorption ratio (DAR) (only for ETCR3800B)
Data Storage	Test result with date and time, MOV 1000 groups; GDT 1000 groups; Insulation resistance: 1000 groups
Data Upload	USB interface, storage test record can be uploaded to computer
Battery Voltage	Battery charge indication, low battery voltage remind to replace the battery
Auto Shut down	15 minutes after boot up, the meter shuts down automatically without any operation
Accessories	Host: 1PCS; Test line: 2PCS; Alligator clip: 2PCS; Probe: 2PCS; Charger Adaptor: 1PCS; USB data cable: 1PCS; Tool bag: 1PCS

ETCR3850 TVS Tester



Product Function

Reverse breakdown voltage test of unidirectional and bidirectional TVS tubes (transient-suppression diodes).

Product features

1. TVS tester adopts touch color screen, with voltage threshold input, qualify judgement, test result display, real-time voltage and current display, measurement record usage, battery power display, test record display and test record operation.
2. Test the TVS tube "reverse breakdown voltage" to ensure the product performance.
3. With rechargeable large capacity lithium battery.
4. With qualified range setting, qualified judgment mode.
5. With test result record function, large capacity data storage and USB data upload function.

Technical Specification

1. Range and Measurement Accuracy

Measure Function	Measure Range	Accuracy	Resolution	Application range
Voltage Test (DC)	0~50V	±5%*FS	0.01V	Test current of TVS diode is 1mA
	50V~100V			
	100V~200V			
	200V~400V			

2. Others Technical Parameters

Power Supply	External power adapter to power supply; AC110V~240V change to DC12V
Built-in Battery	Rechargeable lithium battery: 7.4V, 2600mAh, repeat charge around 1000 times
Voltage Range	0V~400V
Data Storage	Storage 1000 groups test record for each gear
Test Record Query	Support test record query and operate
Communication Mode	serial communication
Display Mode	5-inch TFT color touch screen
LCD Size	108mmX65mm
Host Dimension	215mm(L)X178mm(W)X83mm(H)
Weight	Total weight: 2.09kg (include accessories)
Short Circuit Protection	When the output end of the meter is short circuit, it will stop the output automatically to protect the safety of meter and the worker.
LCD Display	Display the real-time voltage and current data, display the test results after the test is completed, as well as the measurement record, battery power and other information
CHARGE Light	Charge indication light, In charging, the charger indicator lamp light on red, full charge light on green
Working Indication Light	When the user clicks the start button on the screen, the meter starts to output voltage and the blue indicator lamp lights up. After the test complete, the lamp goes out.
Accessories	Host: 1PCS; Test lines: 2PCS; Alligator clip: 2PCS; Pen probe: 2PCS; Charger: 1PCS; USB communication cable: 1PCS; Tool bag: 1PCS

ETCR3900 Standard Resistor



Product Function

Used for calibration of grounding resistance tester, equipotential tester and other instrument.

Product features

1. The military grade wire-wound resistance is used for manufacturing, with stable performance and strong structure, especially convenient for calibration and testing.
2. Fully meet the national weather service order "lightning protection device detection qualification management approach" specified in the range of 10⁻³ ~ 10⁵Ω



Technical Specification

Function	Used for calibration of grounding resistance tester, equipotential tester and other instrument
Range and Accuracy	0.001Ω ; 2%
	0.01Ω ; 0.5%
	0.1Ω ; 0.2%
	1.0Ω ; 0.2%
	10Ω ; 0.05%
	100Ω ; 0.05%
	1KΩ ; 0.05%
	10KΩ ; 0.05%
	100KΩ ; 0.05%
	Connection Wire Method
Power	1/2W
Temperature Coefficient	±25ppm
Dimension	173mmX125mmX70mm
Weight	Total weight: about 1.32kg (include accessories)
Test Line	Red 0.5m & black 0.5m, each with 2pcs
Working Temperature and Humidity	-10°C ~40°C ; 80%RH below
Storage Temperature and Humidity	-20°C ~60°C ; 70%RH below
Insulation Resistance	10MΩ above (between the circuit and shell 500V)
Withstand Voltage	AC 3700V/rms (between the circuit and shell)
Suitable Safety Standard	IEC61010-1, CAT III 600V, Polluted Gradation
Accessories	Meter: 1PCS; Test line: 2PCS; Tool bag: 1PCS

ETCR5000 Power Quality Analyzer




Product Function

1. Comprehensive analysis and diagnosis all the voltage, current, power, electrical energy, harmonic, phase and other electric parameters.
2. Many kinds of current sensors provide a choice to cope with variety of measurement site.
3. 4 channel current and 4 channel voltage measurement, simultaneously capturing and recording electric parameters and waveform, to provide with all the power quality information for working.





Product Feature

1. Test Function: real-time waveform display (4 channels voltage / 4 channels current); voltage and current true RMS; voltage DC component; current and voltage peak; current and voltage maximum/minimum value within a certain time; phasor diagram display; The measurement of each phase harmonics reaches 50 times; the histogram shows the harmonic ratio of each phase current and voltage; the calculation of total harmonic distortion (THD); Active/reactive/apparent power value and total value of each phase; Each phase active/reactive/apparent electrical energy value and total value of each phase; transformer K factor calculation; calculation of $\cos \phi$ displacement and power factor (PF); flicker calculation; three-phase unbalance calculation (Voltage and current).
2. Capture and Monitoring Functions: Capture detection the instantaneous change of electric network voltage and current parameters, including voltage and current fluctuations, voltage and current swell, sag, short-time interruptions, transient over voltage, impulse current, and current and voltage instantaneous distortion. The instrument can store up to 150 groups of transient waveforms simultaneously.
3. Start-up Current Monitoring: It can monitor the inrush current of the circuit and the starting current of the electrical equipment, helpful for the correct design of installed capacity. It can display the rise/fall curve of the effective value in start process, the envelope curve of the start current, 4-channel current and 4-channel voltage waveform. After triggering, can be recorded about 100s, and store all current and voltage instantaneous values and waveform curves in each cycle within 100s.
4. Record and Storage Function: All test parameters of basic test functions (Urms, Uthd, Ucf, Uunb, Hz, Vrms, Vthd, Vcf, Vunb, PST, Arms, Athd, Acf, Aunb, KF, W, VAR, VA, PF, $\cos \phi$, $\tan \phi$), voltage 50 times harmonic, current 50 times harmonic, total of 123 parameters for recording, and generate the trend diagram, record data for a long time as required. (Simultaneously select 20 parameters to record once every 1 seconds, can be recorded about 300 days).
5. Alarm Function: The limit value of the selected parameters can set according to the require to monitoring whether the parameters exceed the limit, when exceed the limit setting will generate the alarm log , such as voltage overvoltage, current overcurrent, unbalance degree over-limit, certain harmonic ratio over-limit, frequency over-limit, active power over-limit, total harmonic distortion over-limit, etc. At most to set 40 groups of alarm monitoring parameters, each groups can set different monitoring parameters (including 50 times harmonics with 123 different parameters) and the limit value, and set the minimum time of over-limit. Stored Max 12800 groups alarm log.
6. Screen capture function: Screen capture can be taken in any test page to store the present screen image, and record time and test mode automatically, Such as saving current voltage waves, harmonic histograms, phasor diagrams, etc. Save up to 60 screenshots simultaneously.
7. Communication Function: Through USB communication with the computer, the monitoring software can display the waveform of power quality analysis and test in real time, and can read the detected and captured transient waveform, trend chart record, alarm list, test screenshot, etc.
8. Setting Function: The user can set the time and date, the display contrast and brightness, and the corresponding color of each phase line in the instrument; the connection mode and power network type of the instrument can be set; can select different current clamp and different voltage test transformation ratio; Chinese menu or English menu can be selected.
9. Chinese/English Help Menu: At each stage of operation, press "help" key at any time to obtain relevant help information.

Technical Specification

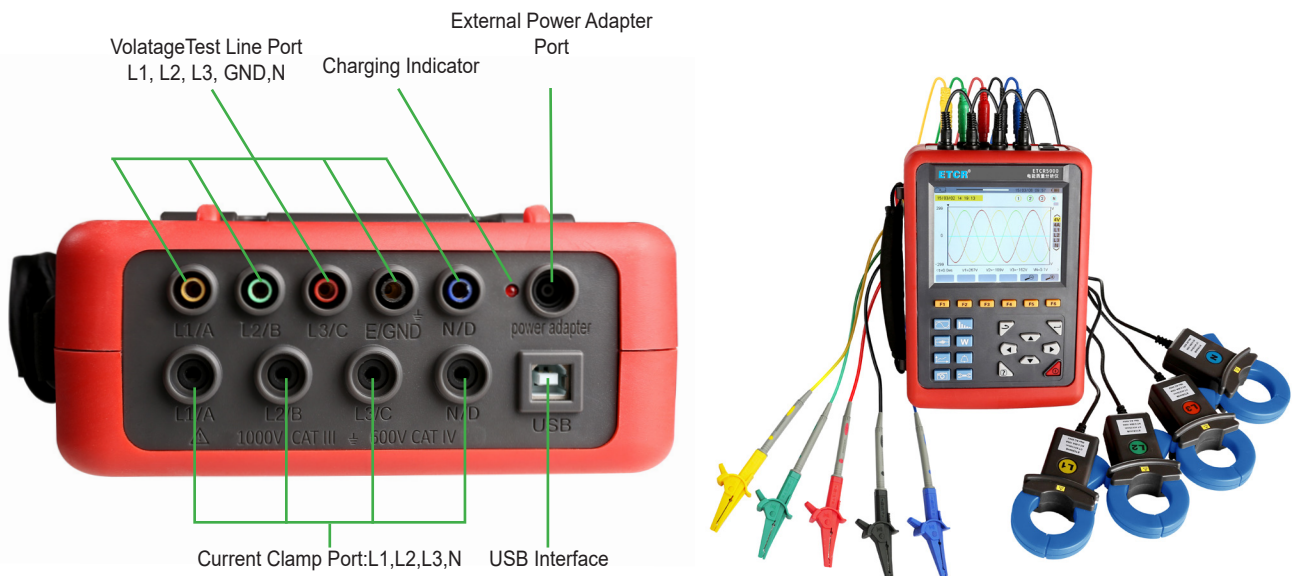
Host Model	ETCR5000		
Power Supply	Rechargeable lithium battery 9.6V, 4500mAH, external charger; working current about 490mA, battery can continuous working about 8 hours		
Battery Level Indicator	Battery symbol 5 grid  Display power, when the battery level is low, automatically shut down after 1 minute indication		
Display Mode	LCD color screen, 640dots × 480dots, 5.6 inches, display field 116mm X 88mm		
Current Test	Current Clamp: 008B; 040B; 068B; 300F (optional)		
Voltage Test	Line voltage: 1.0V ~ 2000V; Phase voltage: 1.0V ~ 1000V		
Electricity Energy Parameter	W, VA, var, PF, DPF, cosΦ, tanΦ, Wh, Varh, Vah		
Number of Channels	4 voltages, 4 currents	Three-Phase Unbalance	Yes
Frequency	40Hz~70Hz	Start Current Mode	Yes, 100 seconds
Harmonic Wave	Yes, 0~50 times	Peak Value	Yes
Total Harmonic Distortion	Yes, 0~50 times, each phase	Phasor Diagram Display	automatic
Expert Mode	Yes	Screenshot Capacity	60PCS
Transient Record Groups	150 groups	Menu Language	Chinese, English
Voltage Flicker	Yes	Communication Interface	USB
Record	300 days (record 20 parameters simultaneously, every 1 seconds record 1 point)		
Min/Max Recorded Value	Yes, the max min value can be measured for a certain time		
Alarm	40 different types of parameter selection, 12800 group alarm logs		
Automatic Shut Down	In the alarm/trend graph recording/transient capture mode (waiting or in progress), the instrument does not automatically shut down		
	In other test modes, there is no button operation within 15 minutes, prompting to automatically shut down after 1 minute.		
Backlight Function	Yes, suitable for dark places and nighttime use		
Meter Size	240mmX170mmX68 mm		
Weight	Total weight: 9.18kg		
Input Resistance	Test voltage input impedance: 1MΩ		
Suitable Safety Standard	IEC 61010 1000V Cat III / 600V CAT IV, IEC61010-031, IEC61326, Pollution Degree 2		
Accessories	Host: 1PCS; Instrument Bag: 1pcs; Test Cable: 5PCS (yellow, green, red, blue, black); Alligator Clip: 5PCS; Charger 1PCS; 2G Memory Card: 1PCS. Current Clamp: (optional); lithium battery: 1PCS		

Current Sensor Characteristics (Optional)

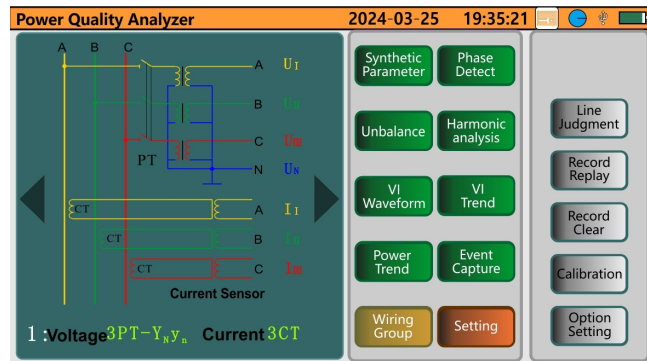
Current sensor model	Current Clamp	Current True RMS	Current True RMS Max Error	Phase Angle Φ Max Error
ETCR 008B CT: Φ8mm		10mA~99mA	±(1 %rdg + 3dgt)	±(1.5°), Arms≥20mA
		100m~10.0A	±(1 %rdg + 3dgt)	±(1°)
ETCR 040B CT: Φ40mm		0.10A~0.99A	±(1 % rdg+ 3dgt)	±(1.5°)
		1.00A~100A	±(1 % rdg+ 3dgt)	±(1°)
ETCR 068B CT: Φ68mm		1.0A~9.9A	±(2 %rdg + 3dgt)	±(3°)
		10.0A~1000A	±(2 %rdg + 3dgt)	±(2°)
ETCR 300F CT: Φ300mm		10A~99A	±(1 %rdg + 3dgt)	±(3°)
		100A~6000A	±(1 % rdg+ 3dgt)	±(2°)

Instrument Accuracy

Measurement Specification	Range	Display Resolution	Max Error
Frequency	40Hz~70Hz	0.01Hz	$\pm(0.03)\text{Hz}$
Phase Voltage True RMS	1.0V~1000V	Min resolution 0.1V	$\pm(0.5\%rdg+5dgt)$
Line Voltage True RMS	1.0V~2000V	Min resolution 0.1V	$\pm(0.5\%rdg+5dgt)$
DC Voltage	1.0V~1000V	Min resolution 0.1V	$\pm(1.0\%rdg+5dgt)$
Current True RMS	10mA~6000A	Min resolution 1 mA	$\pm(0.5\%rdg+2dgt)$
Phase Voltage Peak	1.0V~1414V	Min resolution 0.1V	$\pm(1.0\%rdg+5dgt)$
Line Voltage Peak	1.0V~2828V	Min resolution 0.1V	$\pm(1.0\%rdg+5dgt)$
Current Peak	10mA~6000A	Min resolution 1 mA	$\pm(1.0\%rdg+5dgt)$
Peak Factor	1.00~3.99	0.01	$\pm(1\%rdg+2dgt)$
	4.00~9.99	0.01	$\pm(5\%rdg+2dgt)$
Active Power	0.000W~9999.9kW	Min resolution : 0.001W	$\pm(1\%rdg+3dgt)$; $\text{Cos}\Phi \geq 0.8$
			$\pm(1.5\%rdg+10dgt)$; $0.2 \leq \text{Cos}\Phi < 0.8$
Reactive power Inductive & Capacitive	0.000VAR~9999.9kVAR	Min resolution: 0.001VAR	$\pm(1\%rdg+3dgt)$; $\text{Sin}\Phi \geq 0.5$
			$\pm(1.5\%rdg+10dgt)$; $0.2 \leq \text{Sin}\Phi < 0.5$
Apparent Power	0.000VA~9999.9kVA	Min resolution 0.001VA	$\pm(1\%rdg+3dgt)$
Power Factor	-1.000~1.000	0.001	$\pm(1.5\%rdg+3dgt)$; $\text{Cos}\Phi \geq 0.5$
			$\pm(1.5\%rdg+10dgt)$; $0.2 \leq \text{Cos}\Phi < 0.5$
Active Energy	0.000Wh~9999.9MWh	Min resolution 0.001Wh	$\pm(1\%rdg+3dgt)$; $\text{Cos}\Phi \geq 0.8$
			$\pm(1.5\%rdg+10dgt)$; $0.2 \leq \text{Cos}\Phi < 0.8$
Reactive Energy Inductive & Capacitive	0.000VARh~9999.9MVARh	Min resolution 0.001VARh	$\pm(1\%rdg+3dgt)$; $\text{Sin}\Phi \geq 0.5$
			$\pm(1.5\%rdg+10dgt)$; $0.2 \leq \text{Sin}\Phi < 0.5$
Apparent Energy	0.000VAh~9999.9MVAh	Min resolution 0.001VAh	$\pm(1\%rdg+3dgt)$
Phase Angle	-179°~180°	1°	$\pm(2^\circ)$
Tan Φ (VA \geq 50VA)	-32.768~32.768	Min resolution: 0.001	$\pm(1\%rdg+5dgt)$
Displacement Power Factor (DPF)	-1.000~1.000	0.001	$\pm(1\%rdg+5dgt)$
Harmonic Ratio(Vrms $>$ 50V)	0.0 %~99.9 %	0.1 %	$\pm(1\%rdg+5dgt)$
Harmonic Angle (Vrms $>$ 50V)	-179°~180°	1°	$\pm(3^\circ)$ harmonic 1~25
			$\pm(10^\circ)$ harmonic 26~50
Total Harmonic Rate (DF or THD-F) \leq 50	0.0 %~99.9 %	0.1 %	$\pm(1\%rdg+5dgt)$
Distortion Factor (DF or THD-R) \leq 50	0.0 %~99.9 %	0.1 %	$\pm(1\%rdg+10dgt)$
Transformer K Factor	1.00~99.99	0.01	$\pm(5 \%)$
Three-phase Unbalance	0.0%~100 %	0.1 %	$\pm(1 \%)$



ETCR5200 Power Quality Analyzer



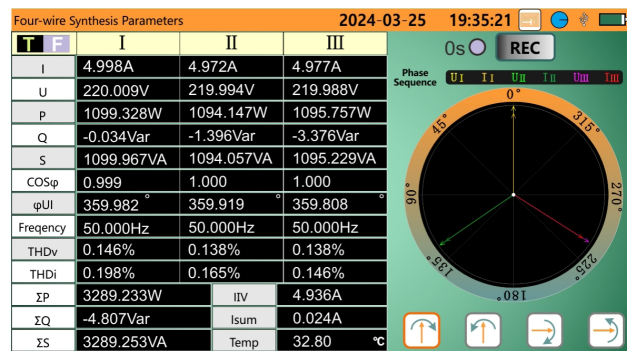
Power on main interface

Product Feature

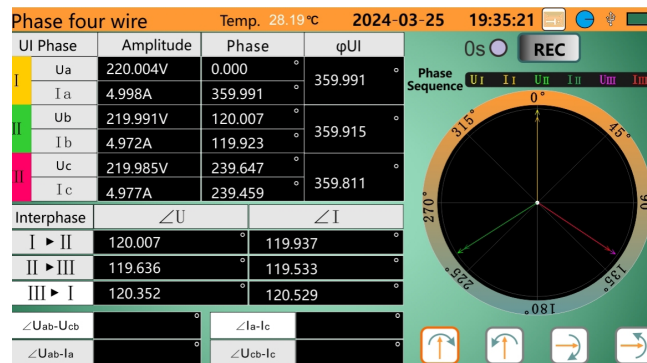
1. Make comprehensive analysis and diagnosis of three-phase power quality.
2. 4 types of current sensors provide options to application on various sites.
3. 4-channels current and 3-channels voltage are measured simultaneously.
4. The test accuracy is 0.5 class, the test is stable and the anti-interference ability is strong.
5. Touch colorful screen, simple human-machine operation, and switch with different operation language (Chinese & English).
6. USB communication uploads the recorded test results to the computer for analysis.
7. Equip with large capacity lithium battery.

Product Function

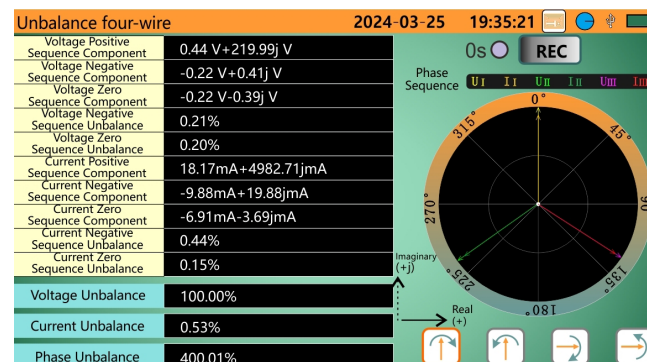
1. Waveforms real-time display (3 channels voltages/4 channels currents).
 2. True effective values (TRMS) of voltage and current.
 3. Phase diagram display.
 4. Each phase harmonics measurement, harmonic up to 50 orders.
 5. The bar graph shows the harmonic content rate of each phase current and voltage.
 6. Total harmonic distortion (THD).
 7. Active/reactive/apparent power value and total value of each phase.
 8. Voltage & current power trend chart.
 9. Three-phase unbalance measurement (voltage and current).
 10. Record wave forms and parameters.
 11. Screenshot and save.
 12. Touch screen operation.
 13. Voltage flicker, voltage surge and voltage drop capture.
 14. Starting current and surge current monitoring.
 15. USB interface communicate with the computer host computer.
 16. Setting the wiring connection method and power network type of the instrument.
- Selecting different clamp current sensor and different voltage test ratio.



Comprehensive parameters - 3-phase 4-wire test interface



Phase measurement - 3-phase 4-wire test interface







Unbalance - 3-phase 4-wire test interface

Technical Specification

Power Supply	Rechargeable lithium battery 7.4V, 5200mAH, external charger
Display Mode	5 inch touch colorful screen
Working Current	About 490mA
Clamp Current Sensor (Optional)	Clamp current sensor 015B: 17mmX18mm; Clamp current sensor 042B: 35X40mm Clamp current sensor 050B; Φ 50mm Flexible coil current sensor 300FA: Φ 300mm
Meter Dimension	240mmX170mmX68mm
Channel	3 channels voltage, 4 channels current
Voltage Range	2V~600V
Current Range	Clamp current sensor 015B: 10mA~10.0A Clamp current sensor 042B: 0.1A~100A Clamp current sensor 050B: 1A~1000A Flexible coil current sensor 300FA: 10A~6000A
Frequency	40Hz~70Hz
Harmonic	Yes, 2~51 orders
Total Harmonic Distortion	Yes, 2~51 orders, each phase
Three-Phase Unbalance	Yes
Communication Interface	USB
Language	Switch between Chinese and English
Battery Power Indication	Battery symbol will display battery power, when the battery power too low, the instrument will automatic shutdown
Automatic Shut Down	During record function acting, the meter will not automatic shutdown During record function off, can setting the automatic shutdown time of 15minutes, 30minutes, 60minutes.
Instrument Weight	Total weight: about 8kg (include all accessories)
Input Impedance	Test voltage input impedance: 1M Ω
Withstand Voltage	The instrument circuit and the housing can withstand 3700V/50Hz sine wave AC voltage for 1 minute.
Insulation	Between the instrument circuit and housing \geq 10M Ω
Structure	Double insulation, with insulation anti-vibration sheath
Suitable Safety Standard	IEC-61010 CAT III 1000V / CAT IV 600V, IEC-61010-031, IEC-61326, Pollution Degree 2
Working Temperature	-10 $^{\circ}$ C ~40 $^{\circ}$ C ; Below 80%RH
Storage Temperature	-10 $^{\circ}$ C ~60 $^{\circ}$ C ; Below 80%RH
Accessories	Host: 1PCS; Instrument bag: 1pcs; Pen probe test lines: 4PCS (each 1PCS of yellow, green, red, black); Alligator clip: 4PCS; Charger 1PCS; 4G Memory card: 1PCS. Clamp current sensor: (optional)

Current Sensor Characteristics (Optional)

Current Sensor Model	Clamp Current Sensor	Current True RMS	Max. Resolution	Current True RMS Max Error	Phase Angle ϕ Max Error
ETCR015B CT Size: 17mmX18mm		110mA~10.0A	1mA	$\pm(1\%rdg+0.05\%fs)$	$\pm(2^{\circ})$
ETCR042B CT Size: 35X40mm		0.10A~100A	1mA	$\pm(1\%rdg+0.05\%fs)$	$\pm(2^{\circ})$
ETCR050B CT Size: Φ 50mm		1.0A~1000A	1mA	$\pm(2\%rdg+0.05\%fs)$	$\pm(2^{\circ})$
ETCR300FA CT: Φ 300mm		10.0A~6000A	1mA	$\pm(1\%rdg+0.05\%fs)$	$\pm(2^{\circ})$

Instrument Accuracy

Measurement specification	Range	Display resolution	Max Error
Frequency	40Hz~70Hz	0.001Hz	$\pm(0.01)\text{Hz}$
Voltage True RMS	2V~600V	Min resolution 0.001V	$\pm(0.5\%F_s)$
Current True RMS	10mA~6000A	Min resolution 0.001A	$\pm(0.5\%F_s)$
Active Power	0.0000W~3600kW	Min resolution 0.001W	$\pm(1\%+3\text{dgt})$; $\text{Cos}\varphi\geq 0.8$
			$\pm(1.5\%+10\text{dgt})$; $0.2\leq\text{Cos}\varphi<0.8$
Reactive Power	0.000VAR~3600kVAR	Min resolution 0.001VAR	$\pm(1\%+3\text{dgt})$; $\text{Sin}\varphi\geq 0.5$
			$\pm(1.5\%+10\text{dgt})$; $0.2\leq\text{Sin}\varphi<0.5$
Apparent Power	0.0000VA~3600kVA	Min resolution 0.001VA	$\pm(1\%+3\text{dgt}\%)$
Power Factor	-1.000~1.000	0.001	$\pm(1.5\%+3\text{dgt})$; $\text{Cos}\varphi\geq 0.5$
			$\pm(1.5\%+10\text{dgt})$; $0.2\leq\text{Cos}\varphi<0.5$
Phase Angle	-179°~180°	0.001°	$\pm(3^\circ)$
Voltage Harmonic Ratio 1~50 Orders (Vrms>50V)	0.0%~99.9%	0.001%	(2~20 orders) $\pm(1\%\text{rdg}+5\text{dgt})$ (21~30 orders) $\pm(1\%\text{rdg}+10\text{dgt})$ (31~51 orders) $\pm(1\%\text{rdg}+15\text{dgt})$
Voltage Harmonic Angle (Vrms >50V)	-179°~180°	0.001°	$\pm(3^\circ)$ harmonic 2~25 orders
			$\pm(10^\circ)$ harmonic 26~51 orders
Current Harmonic Ratio 1~50 Orders (Arms>I range/100)	0.0%~99.9%	0.001%	(2~20 orders) $\pm(1\%\text{rdg}+5\text{dgt})$ (21~30 orders) $\pm(1\%\text{rdg}+10\text{dgt})$ (31~51 orders) $\pm(1\%\text{rdg}+15\text{dgt})$
Current Harmonic Angle (Arms >Arms>I range/100)	-179°~180°	0.001°	$\pm(3^\circ)$ harmonic 1~25 orders $\pm(10^\circ)$ harmonic 26~50 orders
Total Harmonic Rate (DF or THD-F) ≤ 50	0.0%~99.9%	0.001%	$\pm(1\%\text{rdg}+10\text{dgt})$
Distortion Factor (DF or THD-R) ≤ 50	0.0%~99.9%	0.001%	$\pm(1\%\text{rdg}+10\text{dgt})$
Three-phase Unbalance	0.0%~100 %	0.01%	$\pm(1\%)$



ETCR5920 Digital Multimeter




Product Function

Measurement of DC voltage, AC current true effective value (TRMS).

Product Feature

1. Small handheld 3 1/2 digit voltage measuring meter, stable performance, high reliability and good anti-drop performance.
2. The font height of 15mm LCD screen, clear reading.
3. Equipped with backlight, which is convenient for the user to read the measured value in dark place.
4. High internal resistance pure voltmeter can prevent accidents caused by improper use of gears.

Technical Specification

Voltage Measurement	Range: DC 0.0mV~600V	Max Resolution: 0.1mV	Max Accuracy: $\pm(0.5\%+5)$
	Range: AC 0.1mV~600V	Max Resolution: 0.1mV	Max Accuracy: $\pm(0.8\%+5)$
Power Supply	9V DC 6F22X1PCS		
Meter Weight	About 310g (include accessories)		
Meter Size	LxWxH: 144mmX74mmX40mm		
LCD Size	45mmX15mm; Max display: 1999		
Frequency Range	40Hz~400Hz (200V/600V for 40~100Hz)		
Backlight	Yes		
Data Hold	Yes		
Overflow Display	Exceed measurement range overflow function:the highest bit display "1"		
Overload Protection	200mV range for 250V, the rest of the range for DC or AC 600V RMS		
Input Impedance	200mV is 1M Ω , the other ranges are 10 M Ω		
Battery Voltage	When battery power indicate "  "symbol, remind to replace the battery		
Line Voltage	Measuring the voltage to ground: Below AC 600V		
Working Temperature	0 $^{\circ}$ C ~40 $^{\circ}$ C , RH: <85%		
Store Temperature	-10 $^{\circ}$ C ~50 $^{\circ}$ C , RH: <85%		
Accessories	Meter: 1PCS; Probe: 1set; 6F22 9V battery: 1PCS		

ETCR5930 Digital Multimeter




Product Function

Measurement of AC voltage true effective value (TRMS), DC voltage, AC current true effective value (TRMS), DC current, resistance, frequency, capacitance, temperature, continuity test, forward voltage drop of diode , etc.

Product Feature

1. Portable 3 1/2 bit automatic range digital multimeter, compact in structure, easy to operate and portable, which is an ideal tool for electronic measurement..
2. Equipped with backlight, which is convenient for the user to read the measured value in dark place.
3. With automatic shutdown, data hold, flashlight and other functions.

Technical Specification

Voltage Measurement	Range: DC 0.0mV~600V	Max Resolution: 0.1mV	Max Accuracy: $\pm(0.5\%+5)$
	Range: AC 0mV~600V	Max Resolution: 1mV	Max Accuracy: $\pm(1.2\%+5)$
Current Measurement	Range: DC 0.0uA~10A	Max Resolution: 0.1uA	Max Accuracy: $\pm(1.2\%+5)$
	Range: AC 0.0uA~10A	Max Resolution: 0.1uA	Max Accuracy: $\pm(1.5\%+5)$
Resistance Measurement	Range: 0.0 Ω ~20M Ω	Max Resolution: 0.1 Ω	Max Accuracy: $\pm(0.8\%+5)$
Capacitance Measurement	Range: 0.00nF~2mF	Max Resolution: 0.01nF	Max Accuracy: $\pm(3\%+5)$
Frequency Measurement	Range: 0.0Hz~20MHz	Max Resolution: 0.1Hz	Max Accuracy: $\pm(0.5\%+3)$
Temperature Measurement	Range: 0 $^{\circ}$ C ~1000 $^{\circ}$ C	Max Resolution: 1 $^{\circ}$ C	Max Accuracy: $\pm(1.2\%+4)$
Power Supply	DC3V LR03X2PCS alkaline dry battery		
Meter Weight	About 365g (include accessories)		
Meter Size	LxWxH: 152mmX73mmX48mm		
LCD Size	46mmX25mm; Max display: 1999		
Backlight	Yes		
Data Hold	Yes		
Continuity Measurement	Yes		
Diode Forward Voltage Drop	Yes		
Insurance tube	F 200mA, 10A (dimension Φ 3.8X10mm)		
Automatic Shutdown	After 15minutes will automatic shutdown without any operation		
Overflow Display	Exceed measurement range overflow function: "OL" symbol display		
Overload Protection	Yes		
Input Impedance	10M Ω		
Battery Voltage	When battery power indicate "  "symbol, remind to replace the battery		
Line Voltage	Measuring the voltage to ground: Below AC 600V		
Working Temperature	0 $^{\circ}$ C ~40 $^{\circ}$ C , RH<75%		
Store Temperature	-10 $^{\circ}$ C ~ 50 $^{\circ}$ C , RH<80%		
Accessories	Meter:1PCS; Pen Probe: 1set; Temperature probe: 1PCS; 200mA fuse tube: 1PCS; 10 Fuse tube: 1PCS; LR03 battery: 2PCS		

ETCR5940 Digital Multimeter




Product Function

Measurement of AC voltage true effective value (TRMS), DC voltage, AC current true effective value (TRMS), DC current, resistance, frequency, capacitance, temperature, continuity test, forward voltage drop of diode, etc.

Product Feature

1. Portable 3 5/6 bit automatic range digital multimeter, compact in structure, easy to operate and portable, which is an ideal tool for electronic measurement.
2. Equipped with backlight, which is convenient for the user to read the measured value in dark place.
3. With automatic shutdown, data hold, frequency and duty ratio measurement and other functions.

Technical Specification

Voltage Measurement	Range: DC 0mV~1000V	Max Resolution: 1mV	Max Accuracy: $\pm(0.5\%+5)$
	Range: AC 0mV~1000V	Max Resolution: 1mV	Max Accuracy: $\pm(1.2\%+5)$
Current Measurement	Range: DC 0.0uA~10A	Max Resolution: 0.1uA	Max Accuracy: $\pm(1\%+5)$
	Range: AC 0.0uA~10A	Max Resolution: 0.1uA	Max Accuracy: $\pm(1\%+5)$
Resistance Measurement	Range: 0.0 Ω ~60M Ω	Max Resolution: 0.1 Ω	Max Accuracy: $\pm(0.8\%+5)$
Capacitance Measurement	Range: 0.000nF~9.999mF	Max Resolution: 0.001nF	Max Accuracy: $\pm(3\%+30)$
Frequency Measurement	Range: 0.000Hz~20MHz	Max Resolution: 0.001Hz	Max Accuracy: $\pm(0.5\%+3)$
Temperature Measurement	Range: 0 $^{\circ}$ C ~1000 $^{\circ}$ C	Max Resolution: 1 $^{\circ}$ C	Max Accuracy: $\pm(1.2\%+4)$
Power Supply	3V DC LR03X2PCS alkaline dry battery		
Meter Weight	About 396g (include accessories)		
Meter Size	LxWxH: 178mmX85mmX35mm		
LCD Size	58mmX31mm; Max display: 6000		
Backlight	Yes		
Data Hold	Yes		
Continuity Measurement	Yes		
Diode Forward Voltage Drop	Yes		
Automatic Shutdown	After 15minutes will automatic shutdown without any operation		
Overflow Display	Exceed measurement range overflow function: "OL" symbol display		
Overload Protection	Yes		
Input Impedance	10M Ω		
Battery Voltage	When battery power indicate "  "symbol, remind to replace the battery		
Line Voltage	Measuring the voltage to ground: Below AC 600V		
Working Temperature	0 $^{\circ}$ C ~ 40 $^{\circ}$ C , RH<75%		
Store Temperature	-10 $^{\circ}$ C ~ 50 $^{\circ}$ C , RH<80%		
Accessories	Meter: 1PCS; Probe: 1set; Temperature probe: 1PCS; LR03 3V battery: 2PCS		

ETCR5960 Digital Multimeter




Product Function

Measurement of AC voltage true effective value (TRMS), DC voltage, AC current true effective value (TRMS), DC current, resistance, capacitance, continuity test, forward voltage drop of diode, etc.

Product Feature

1. Using single-chip microcomputer management, all functions have overload protection.
2. Equipped with backlight, which is convenient for the user to read the measured value in dark place.
3. With automatic shutdown, data hold and other functions.

Technical Specification

Voltage Measurement	Range: DC 0.0mV~2000V	Max Resolution: 0.1mV	Max Accuracy: $\pm(0.5\%+5)$
	Range: AC 0.0mV~2000V	Max Resolution: 0.1mV	Max Accuracy: $\pm(0.8\%+5)$
Current Measurement	Range: DC 0.0uA~200mA	Max Resolution: 0.1uA	Max Accuracy: $\pm(0.8\%+5)$
	Range: AC 0uA~200mA	Max Resolution: 10uA	Max Accuracy: $\pm(1\%+5)$
Resistance Measurement	Range: 0.0Ω~20MΩ	Max Resolution: 0.1Ω	Max Accuracy: $\pm(1\%+5)$
Capacitance Measurement	Range: 0pF~2000uF	Max Resolution: 10pF	Max Accuracy: $\pm(3\%+10)$
Frequency Range	40Hz~1kHz		
Power Supply	9V DC 6F22X1PCS		
Meter Weight	About 680g (include accessories)		
Meter Size	LxWxH: 180mmX85mmX42mm		
LCD Size	60mmX50mm; Max display: 1999		
Backlight	Yes		
Data Hold	Yes		
Continuity Measurement	Yes		
Sampling Rate	2.5 times/s		
Automatic Shutdown	After start up the meter 15minutes and without any operation, will automatic shutdown		
Overflow Display	Exceed measure range overflow function: "OL" symbol display		
Overload Protection	Yes		
Input Impedance	10MΩ		
Battery Voltage	When battery power indicate "  "symbol, remind to replace the battery		
Line Voltage	Measuring the voltage to ground: Below AC 600V		
Working Temperature	0°C ~40°C ; RH<75%		
Store Temperature	-10°C ~ 50°C ; RH<80%		
Accessories	Meter: 1PCS; Probe: 1set; Tool bag: 1PCS; 6F22 9V battery: 1PCS; Insurance tube: 2PCS		

ETCR6000/ 6000B/6100 AC/DC Clamp Leakage Current Meter

Product Function

Measurement of AC/DC leakage current.

Product Feature

- 1.The iron core is made with high performance permalloy, hall induction technology, which is suitable for electric power measurement system, high-speed railway system and automobile circuit maintenance, etc.
- 2.Meter small size, high precision, stable performance.
- 3.Data hold and data storage functions. Data upload function, the storage data can be uploaded to the computer, convenient to read, save and print and so on.

Technical Specification

Model	ETCR6000	ETCR6000B	ETCR6100
			
			
Range	AC/DC 0mA~60.0A	AC/DC 0mA~60.0A	AC/DC 0.0A~1000A
Resolution	AC/DC 1mA	AC/DC 1mA	AC/DC 0.1A
Accuracy	$\pm 2\%rdg \pm 5dgt$	$\pm 2\%rdg \pm 5dgt$	$\pm 2\%rdg \pm 3dgt$
CT Size	$\Phi 7mm$	16mmX18mm	30mmX35mm
Meter Dimension	168X65X34mm	215X65X34mm	175X70X38mm
Weight	180g (include battery)	220g (include battery)	200g (include battery)
Power Supply	DC9V Alkaline battery 6LR61 9V		
Working Current	10mA		
LCD Size	35mmX21.5mm; display area: 32mmX15mm		
Sampling Rate	2 times/s		
Communication Interface	Storage data can be uploaded to computer save and print.		
Communication Parameters	Baud rate: 9600, data bit: 8, stop bit: 1, check bit: NONE		
Data Storage	99 groups, flash display "FULL" symbol indicate storage full		
Data Hold	Data hold function: "DH" symbol display		
Overflow Display	Exceed measure range overflow function: "OLA" symbol display		
Polarity Indication	In DC current test auto identified and display"—" symbol		
Auto Shut Down	5 Minutes after power on, it will power off automatically without any operation to reduce the power consumption.		
Battery Voltage	Battery voltage lower than 7.2V will display low battery voltage symbol, and remind to replace battery		
Line Voltage	Below 600V circuit test		
Shift	Automatically		
Accessories	Meter: 1PCS; Communication cable: 1PCS; Cloth Bag: 1PCS; Alkaline battery 6LR61 9V: 1PCS		

ETCR6300 High Accuracy Clamp Leakage Current Meter

Product Function

Measurement of AC leakage current, AC current.

Product Feature

- 1.The iron core is made with high performance permalloy and digital integration technology, small volume, high accuracy, and resolution: 1uA.
- 2.Adopts magnetic shielding technology, almost unaffected by the external magnetic field, strong anti-interference ability.
- 3.Peak hold function. Data storage function.
- 4.4.Equip with RS232 interface, communication cable and software, storage data can be upload to computer and convenient to reading, saving and printing.



Technical Specification

Range	0.001mA~60.0A
Resolution	1uA
CT Size	25mm X 30mm
Meter Dimension	175mm X 70mm X 38mm
Weight	210g (include battery)
Measurement Accuracy	±1.5%rdg±5dgt (23°C ± 3°C , below 70%RH)
Power Supply	DC9V Alkaline battery 6LR61 9V
LCD Size	35mmX21.5mm; display area: 32mmX15mm
Sampling Rate	2 times/second
Communication Interface	Storage data can be uploaded to computer, software monitoring.
Data Storage	99 groups, flash display "FULL" symbol indicate storage full
Peak Hold	Peak value capture and hold function, long press HOLD key display peak value
Data Hold	Data hold function: "DH" symbol display
Overflow Display	Exceed measure range overflow function: "OL" symbol display
Auto Shut Down	5 Minutes after power on, it will shut down automatically without any operation to reduce the power consumption.
Battery Voltage	Battery voltage lower than 7.2V will display low battery voltage symbol, and remind to replace battery
Working Current	5mA
Line Voltage	Below AC 600V circuit measurement
Shift	Automatically
Accessories	Meter: 1PCS; I communication cable: 1PCS; Tool bag: 1PCS; Alkaline battery 6LR61 9V: 1PCS

ETCR6420 /6450/6470 Clamp Multimeter

Product Function

Measurement of DC voltage, AC voltage, AC current true RMS, resistance, capacitance, frequency, on-off test, temperature, diode forward voltage drop and others parameters.

Product Feature

- 1.The perfect combination of clamp meter and multimeter, compact structure, easy to operate, convenient to carry, which is an ideal tool for electrical measurement.
- 2.The meter with the feature of high reliability, high safety, automatic range adjustment and so on. And the measuring speed of large capacitance is fast

Technical Specification

Model			
DC Voltage	400mV/4V/40V/400V/600V	400mV/4V/40V/400V/1000V	2V/20V/200V/2000V
AC Voltage	4V/40V/400V/600V	400mV/4V/40V/400V/700V	2V/20V/200V/2000V
DC Current	-	40A/400A/1000A	20A/200A/2000A
AC Current	4A/40A/400A/600A	4A/40A/400A/1000A	20A/200A/2000A
Resistance	400Ω/4kΩ/40kΩ/400kΩ/4MΩ /40MΩ	400Ω/4kΩ/40kΩ/400kΩ/4MΩ /40MΩ	200Ω/2kΩ/20kΩ/200kΩ /2MΩ/20MΩ
Capacitance	10nF/100nF/1uF/10uF/100uF/ 1000uF/10mF	10nF/100nF/1uF/10uF/100uF/ 1000uF/10mF	20uF/200uF/2uF/20uF/200uF /2000uF
Frequency	100Hz/1kHz/10kHz/100kHz/1MHz /10MHz/40MHz	10Hz/100Hz/1kHz/10kHz/100kHz /1MHz/10MHz/40MHz	-
Temperature	-50°C~1000°C	-50°C~1000°C	-
CT Size	max measure wire diameter Φ 27 mm	max measure wire diameter Φ 52mm	max measure wire diameter Φ 55mm
Power Supply	3V DC LR03X2 alkaline dry batteries	9V DC 6F22X1 alkaline dry battery	9V DC 6F22X1PCS alkaline dry battery
Meter Dimension	213mmX80mmX35mm	249mmX89mmX38mm	270mmX100mmX46mm
Meter Weight	230g (include battery)	360g (include battery)	460g (include battery)
Diode Test	Can measure the LED work voltage below 3V		DC forward current about 0.5mA DC reverse voltage about 3.2V Open circuit voltage about 0.6V
Max Display	3999		1999
Surge Signal Measurement	-	√	√
NCV (Live line) Measurement	√	√	-
Duty Ratio Measurement	√	√	-
Auto Range	√	√	-
Manual Range	√		
Overload Protection	√		
Auto Shutdown	√		
Short Circuit Buzzer	√		
Low Voltage Indicator	√		
Input Impedance	about 10MΩ		
Data Hold	√		
Accessories	Meter: 1pcs; Pen probe: 1set; Temperature sensor: 1pcs; Tool Bag: 1pcs		

ETCR6540 Mini Clamp Leakage Current Meter

Product Function

Measurement of AC leakage current, AC current.

Product Feature

- 1.The iron core is made with high performance material and digital integration technology, small volume, high accuracy.
 - 2.Adopts magnetic shielding technology, almost unaffected by the external magnetic field, strong anti-interference ability.
- Peak hold function. Data storage function.



Technical Specification

Power Supply	DC3V Alkaline dry battery LR03 X 2PCS
Range	0.00mA~300.0A
Resolution	10uA
Measurement Accuracy	±1.5%±5dgt (23°C ±3°C , below 70%RH)
Meter Weight	0.31kg (include accessories)
Meter Dimension	180mmX72mmX32mm
CT Size	Φ40mm
LCD Size	35mmX21.5mm; display area: 32mmX15mm
Sampling Rate	2 times/second
Frequency	50Hz, 60Hz Automatic identification
Data Store	99 groups , flash display "FULL" symbol indicate stored full
Peak Hold	Peak capture and hold function, long press HOLD key display peak value
Data Hold	Data hold function: " DH " symbol display
Overflow Display	Exceed measure range overflow function: " OL " symbol display
Automatic Shut Down	5 Minutes after power on, will shut down automatically without any operation to reduce the power consumption.
Battery Voltage	When battery voltage lower than 2.8V, will display low battery voltage symbol " + ", remind to replace battery
Working Current	5mA
Line Voltage	Below AC 600V circuit measurement
Shift	Automatically
Accessories	Meter: 1PCS; Tool bag: 1PCS; LR03 Alkaline battery : 2PCS

ETCR6640A/6670A/6680A Clamp Leakage Current Meter



Product Function

Measurement of AC/DC leakage current.

Product Feature

- 1.This is a multi-functional new type clamp leakage current measurement meter.
- 2.The clamp jaw is made of permalloy and magnetic shielding technology, which is almost unaffected by external electromagnetic field and with high measurement accuracy and good stability.
- 3.The clamp meter with true RMS measurement, filter(band pass filter) function, maximum value / minimum value / average value, harmonics, aberration rate and other test functions.
- 4.The clamp meter has backlight, spotlight, data hold, Bluetooth communication and other functions.

Technical Specification

Model	ETCR6640A	ETCR6670A	ETCR6680A
Range	AC 0.00mA~300A	AC 0.00mA~1200A	AC 0.00mA~2000A
Resolution	AC 0.01mA	AC 0.01mA	AC 0.01mA
Max Accuracy	±1.5%rdg±5dgt	±1.5%rdg±5dgt	±1.5%rdg±5dgt
CT Size	Φ40mm	Φ70mm	80mmX80mm
Meter Dimension	192mmX96mmX40mm	237mmX131mmX40mm	253mmX145mmX40mm
Weight	0.49kg (include battery)	0.78kg (include battery)	1.19kg(include battery)
Power Supply	DC9V, Alkaline dry battery (6LR61 9V)		
LCD Size	43mmX38mm; display area: 36.5mmX29mm		
LCD Backlight	Yes		
Spotlight	Yes		
Filter Function	Filter open: 40Hz~70Hz; Filter close: 40Hz~1kHz		
Harmonic Analysis	21times (above 10mA)		
Distortion Rate	Yes (above 10mA)		
Max/Min Value	Yes		
Average Value	Yes		
Data Hold	Yes		
Data Storage	2000 groups (Store via APP)		
Overflow Display	Exceed measure range overflow function: "OL" symbol display		
Bluetooth Communication	Yes, can test or view the test results on mobile after install the APP.		
Automatic Shutdown	5 minutes after power on, will shutdown automatically without any operation to reduce the power consumption.		
Working Current	20mA (open spotlight 40mA)		
Line Voltage	Below 600V line test		
Working Condition	-10℃ ~50℃ ; below 80%RH		
Dielectric Strength	AC 3700V/rms(between the core and shell)		
Accessories	Meter: 1PCS; 6LR61 battery: 1PCS; Tool bag: 1PCS		

ETCR6670D/6680D AC/DC Clamp Current Meter



Product Function

Measurement of AC/DC current.

Product Feature

- 1.The clamp meter use Hall effect sensor and adopt with digital integration technology, which has high measurement accuracy and good stability.
- 2.The clamp meter has the functions of DC/AC TRMS measurement, maximum value/minimum value/average value measurement, etc.
- 3.The clamp meter equip with rechargeable large-capacity lithium battery. The clamp meter also has functions such as backlight, flashlight, data retention, and Bluetooth communication,etc.

Technical Specification

Model	ETCR6670D	ETCR6680D
Range	DC 0.0A~2000A	DC 0.0A~2000A
	AC 0.0A~1500A	AC 0.0A~1000A
Resolution	AC/DC 0.0A	AC/DC 0.0A
Max Accuracy	$\pm 2\%rdg \pm 5dgt$	$\pm 2\%rdg \pm 5dgt$
CT Size	$\Phi 70mm$	80mmX80mm
Meter Dimension	237mmX131mmX40mm	253mmX145mmX40mm
Weight	477g	664g
Power Supply	Rechargeable lithium battery DC3.7V/1000mAh	
LCD Size	43mmX38mm; display area: 36.5mmX29mm	
LCD Backlight	Yes	
Spotlight	Yes	
Max/Min Value	Yes	
Average Value	Yes	
Data Hold	Yes	
Data Store	2000groups (Store with APP)	
Overflow Display	Exceed measure range overflow function: "OL" symbol display	
Bluetooth Communication	Yes, can test or view the test results on mobile after installing the APP.	
Automatic Shutdown	5 minutes without any operation after starting up, will shutdown automatically to reduce the power consumption.	
Working Current	60mA (open spotlight 72mA)	
Line Voltage	Circuit line test below 600V	
Working Condition	-10°C ~50°C ; below 80%RH	
Dielectric Strength	AC 3700V/rms(between the core and shell)	
Accessories	Meter: 1PCS; Charge adaptor: 1set; Tool bag: 1PCS	

ETCR6900/6900A Flexible Coil Large Current Clamp Meter



Product Function

Measurement of AC current.

Product Feature

1. Flexible coil without any exposed metal conductor, non-contact measurement, safe and reliable. Small size, light weight, soft and flexible, suitable for narrow environment and cable densely places, as well as measuring conductor current of large size or irregular shape .
2. No hysteresis effect, strong anti-interference ability. Especially suitable for the current test of transformer grounding core , thick wire and cable, relay protection, silicon controlled rectifier, frequency conversion speed regulation, semiconductor switch, power electronic conversion equipment, arc welding and other industrial environment with serious signal distortion.

Technical Specification

Clamp Model	ETCR6900	ETCR6900A
Coil Inner Diameter	Φ200mm	Φ150mm
Weight	0.38kg (include accessories)	0.3kg (include accessories)
Meter Size	190mmX370mmX40mm	150mmX310mmX40mm
Range	AC 0.00A~9999A, (±2%rdg±3dgt , 10mA)	AC 0.00A~5000A, (±2%rdg±3dgt , 10mA)
Power Supply	DC9V Alkaline dry battery 6LR61 9V	
Coil Thickness	Φ7.5mm (Suitable for use in narrow environments and cable densely packed place, etc.)	
Measured Current Frequency	50Hz/60Hz (Automatic)	
AC voltage measurement	---	
DC voltage measurement	--	
Backlight	--	
Electric Field Interference	No hysteresis effect, strong anti-interference ability	
Sampling Rate	2 times /second	
Data Storage	99 groups, flash display "FULL" symbol indicate storage full	
Peak Hold	Peak value capture and hold function, long press POWER key display peak value, and the "🔊" symbol display	
Data Hold	Data hold function: "DH" symbol display	
Line Voltage	Below AC 600V circuit measurement	
Overflow Display	Exceed measure range overflow function: "OL" symbol display	
Battery Voltage	While battery voltage is lower than 7.2V. low battery voltage symbol "🔋" display, remind to replace the battery	
Rated Current	About 8mA	
Accessories	Meter: 1PCS; Lanyard: 1PCS; Tool Bag: 1PCS; 6LR61 9V battery: 1PCS	

ETCR6920/ETCR6920B Flexible Coil Large Current Clamp Meter




Product Function

Measurement of AC current, AC voltage, DC voltage, resistance and Continuity test

Product Feature

1. Flexible coil without any exposed metal conductor, non-contact measurement, safe and reliable. Small size, light weight, soft and flexible, suitable for narrow environment and cable densely places, as well as measuring conductor current of large size or irregular shape .
2. Flexibl coil inside diameter is $\phi 200\text{mm}/\phi 300\text{mm}$, customized size according to user requirements.
3. Display multiple measurement parameters on same screen, easy to operate.
4. Can be used as the normal multimeter.
5. With USB port, can upload the stored data to computer via the software, convient to view, store and print the data.

Technical Specification

Model	ETCR6920	ETCR6920B
CT Size	$\phi 200\text{mm}$	$\phi 300\text{mm}$
Meter Weight	266g (include battery)	286g (include battery)
Meter Dimensions	LWH: 200mmX370mmX35mm	LWH: 300mmX470mmX35mm
AC Current Measurement	Range: AC 0mA~10000A Accuracy: $\pm 2\% \text{rdg} \pm 5 \text{dgt}$ Resolution: 1mA	
AC Voltage Measurement	Range: AC 0.1V~750V Accuracy: $\pm 1.5\% \text{rdg} \pm 3 \text{dgt}$ Resolution: 0.1V	
DC Voltage Measurement	Range: DC 0.1V~1000V Accuracy: $\pm 1.5\% \text{rdg} \pm 5 \text{dgt}$ Resolution: 0.1V	
Resistance Measurement	Range: $0\Omega \sim 2\text{k}\Omega$ Accuracy: $\pm 2\% \text{rdg} \pm 5 \text{dgt}$ Resolution: 1Ω	
Power	DC6V (LR03 1.5VX4PCS Alkaline dry battery)	
Working Current	Backlight on: 80mA; Backlight off: 40mA	
Sampling Rate	2 times /second	
Frequency	50Hz/60Hz (Automatic)	
Continuity Test	Yes, in the resistance measurement interface press "SET" key, display "ⓘ)" " symbol to open this function and the buzzer will make out sound "bee---".	
Communication Terminal	With USB terminal, upload stored data to computer, convient to analysis data, communication cable length 1.8m	
Data Storage	600 groups, display "FULL" symbol indicate storage full	
Data Hold	Data hold function: "DH" symbol display	
Overflow Display	Overrange overflow function: "OL" symbol display	
Automatic Shutdown	About 10minutes after start up, the meter will automatic shutdown without any operation, to reduce battery consumption	
Battery Voltage	While battery voltage is lower than 4.8V. meter will display symbol "  ", and remind to replace the battery	
Backlight	Yes, Press "*" key to control	
Working Termerature	$-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$;below 80%RH	
Accessories	Meter: 1PCS; Pen Probe Test Line: 2PCS(Red & Black); USB Communication Cable: 1PCS; Tool Bag: 1PCS; LR03 battery: 4PCS	

ETCR7100D Super Large Caliber DC/AC Clamp Current Meter

Product Function

Measurement of DC/ AC current.

Product Feature

1. Super large caliber, can clamp 108mm cable.
2. Data storage function.
3. Peak hold function.
4. With USB interface, can upload the storage data to the computer through the system software, convenient to reading, saving, printing and so on.



Technical Specification

Model	ETCR7100D
Range	DC: 0.0A~2000A AC: 0.0A~1000A
Resolution	0.1A DC/AC
Accuracy (Reference condition)	0.0A~999A: $\pm 2\%rdg \pm 5dgt$
	1000A~1499A: $\pm 3\%rdg \pm 5dgt$
	1500A~2000A: $\pm 4\%rdg \pm 5dgt$
Power Supply	DC 6V alkaline dry batteries (LR6 1.5VX4PCS)
Weight	1540g (include battery)
Meter Dimension	350mmX180mmX55mm
CT Size	108mmX148mm (can clamp $\phi 108mm$ cable or 160mmX4mm flat cable or steel flat ground cable)
LCD Size	47mmX28.5mm
Sampling Rate	2 times/second
USB Interface	With USB interface, storage data can be uploaded to computer, software monitoring, USB cable length: 1.5m
Data Storage	99 groups, flash display "FULL" symbol indicate storage full
Peak Hold	Peak value capture and hold function, long press HOLD key display peak value.
Data Hold	Data hold function: "HOLD" symbol display
Overflow Display	Exceed measure range overflow function: "OL" symbol display
Polarity Indication	In DC current test auto identified and display "-" symbol
Auto Shut Down	5 Minutes after power on, it will shut down automatically without any operation to reduce the power consumption.
Battery Voltage	While battery voltage is lower than 4.6V low battery voltage symbol "⚡" display, remind to replace the battery
Working Current	20mA
Line Voltage	Below AC 600V circuit measurement
Shift	Automatic
Accessories	Meter: 1PCS; USB special communication cable: 1PCS; 1PCS; Meter Case: 1PCS; LR6 battery: 4PCS

ETCR7300/ 7300A Large Caliber Three Phase Clamp Power Meter

Product Function

Measure three-phase AC voltage, leakage current, current, active power, reactive power, apparent power, total power, phase between current and voltage, phase between phase voltage, frequency, electric energy, phase sequence, etc.

Product Feature

1. Distinguish wiring group, inductive circuit and capacitive circuit of transformer, read out the phase relationship between CT of each group of differential protection, check whether the wiring of the electricity meter is correct or not, overhaul the circuit equipment, etc.
2. Large caliber convenient to use.
3. Data storage function, upload the storage data to the computer through the system software, convenient to reading, saving, printing and so on.



Technical Specification

Model	ETCR7300		ETCR7300A	
Function	Measure leakage current, active power, reactive power, apparent power and other parameters		Measure large current, large power, can not measure leakage current, the current up to 5A can display the active power, reactive power, apparent power and other parameters.	
Current Range	AC 0.00mA~1200A	Resolution 0.01mA	AC 0.0A~2000A	Resolution 0.1A
Active Power Measurement	AC 0.50W~720KW	Resolution 0.01W	AC 0.0kW~1200kW	Resolution 0.1kW
Apparent Power Measurement	AC 0.50VA ~ 720kVA	Resolution 0.01VA	AC 0.0kVA ~ 1200kVA	Resolution 0.1kVA
Reactive Power Measurement	AC 0.50var ~ 720kvar	Resolution 0.01var	AC 0.0kvar ~ 1200kvar	Resolution 0.1kvar
Voltage Range	AC 0~600V	Resolution 0.01V		
Frequency Range	25Hz~100Hz	Resolution 0.1Hz		
Power Energy Range	0.000kWh ~ 7200kWh	Resolution 0.0001kWh		
Highest precision	±(1.5%rdg+5dgt)			
Weight	830g (with battery)			
Meter Dimension	275mmX145mmX40mm			
CT Size	80mmX80mm (can clamp Φ80mm cable or 96mmX4mm steel flat ground cable)			
Working Current	Backlight open 50mA; Backlight close 25mA			
Power Supply	DC6V alkaline dry batteries (LR6 1.5VX4PCS)			
Phase Range	0.0°~360.0°	Resolution 0.1°		
Power Factor Range	0.3~1.000	Resolution 0.001		
Sampling Rate	2 times/second			
Frequency	50Hz ,60Hz automatic identification			
Communication Interface	Storage data can be uploaded to computer, convenient to data analyze, communication cable length: 1.8m			
Data Storage	200 groups , flash display "FULL" symbol indicate storage full			
Data Hold	Data hold function: "HOLD" symbol display			
Overflow Display	Exceed measure range overflow function: "OL" symbol display			
Auto Shut Down	15 minutes after power on, it will shut down automatically without any operation to reduce the power consumption.			
Battery Voltage	While battery voltage is lower than 5.2V. low battery voltage symbol display, remind to replace the battery			
Backlight	Yes, Controlled by " * "key			
Line Voltage	Below AC 600V circuit measurement			
Accessories	Meter: 1PCS; Test Wires: 4PCS (each of yellow, green, red, black); Communication cable: 1PCS; Meter Case: 1PCS; LR6 battery: 4PCS			

ETCR7350/7350B Rogowski Coil/Flexible Coil Clamp Power Meter




Product Function

Measure three-phase AC voltage, current, active power, reactive power, apparent power, total power, the phase between current and voltage, the phase between phase voltage, frequency, electric energy, phase sequence, etc.

Product Feature

1. Adopt rogowski coil/ flexible coil, small volume and light weight, especially convenient for field measurement.
2. Coil size: $\varnothing 200\text{mm}$, can be customized size according to user requirements.
3. Multiple parameters are displayed on the same screen, easy to operate.
4. With USB interface, upload the storage data to the computer through the system software, convenient to reading, saving, printing and so on.

Technical Specification

Model	ETCR3750	ETCR3750B
Clamp Size	$\Phi 200\text{mm}$	$\Phi 300\text{mm}$
Weight	266g (include battery)	286g (include battery)
Meter Size	200mmX370mmX35mm	300mmX470mmX35mm
Current Measurement	Range: AC 0.0A~6000A	Accuracy: $\pm 0.5\%F_s$ Resolution 0.1A
Voltage Measurement	Range: AC 0.01V~600V	Accuracy: $\pm 0.5\%F_s$ Resolution: 0.01V
Active Power Measurement	Range: 0.00W~3600kW	Accuracy: $\pm 1\%F_s$ Resolution: 0.01W
Apparent Power Measurement	Range: 0.00VA~3600kVA	Accuracy: $\pm 1\%F_s$ Resolution: 0.01VA
Reactive Power Measurement	Range: 0.00var~3600kvar	Accuracy: $\pm 1\%F_s$ Resolution: 0.01var
Power Factor Measurement	Range: 0.300~1.000	Accuracy: $\pm 1\%F_s$ Resolution: 0.001
Electric Energy Measurement	Range: 0.00Wh~3600kWh	Accuracy: $\pm 1\%F_s$ Resolution: 0.01Wh
Frequency Measurement	Range: 25.0Hz~600.0Hz	Accuracy: $\pm 0.5\text{Hz}$ Resolution: 0.1Hz
Phase Measurement	Range: $0.0^\circ\sim 360.0^\circ$	Accuracy: $\pm 0.5^\circ$ Resolution: 0.1°
Power Supply	6V DC alkaline dry battery (LR03 1.5VX4PCS)	
Working Current	Backlight open 80mA; Backlight close 50mA	
Sampling Rate	2 times/second	
Frequency	50Hz/60Hz automatic identification	
Communication Interface	With USB interface, storage data can be uploaded to computer, convenient to data analyze, communication cable length: 1.8m	
Data Storage	200 groups, flash display "FULL" symbol indicate storage full	
Data Hold	Data hold function: "HOLD" symbol display	
Overflow Display	Over range overflow function: "OL" symbol display	
Auto Shut Down	15 minutes after power on, it will shut down automatically without any operation to reduce the power consumption.	
Battery Voltage	While battery voltage is lower than 4.8V. low battery voltage symbol "  " display, remind to replace the battery	
Backlight	Yes, Controlled by " * "key	
Working Temperature	$-10^\circ\text{C}\sim 40^\circ\text{C}$, Below 80%RH	
Accessories	Meter: 1PCS; Test Wires: 4PCS (each of yellow, green, red, black); USB communication cable: 1PCS; LR03 Battery: 4PCS ; Meter bag: 1PCS	

ETCR8100B Transformer Core Earth Current Tester



Product Function

Transformer core earth current test; Online testing of AC leakage current, current, frequency.

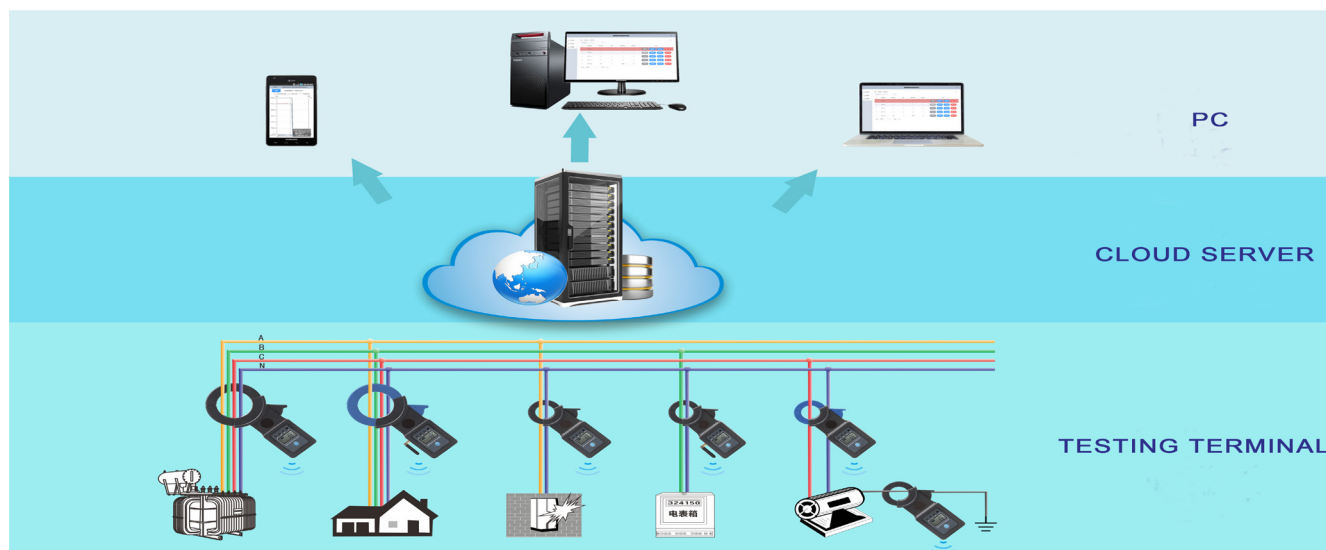
Product Features

- 1.It is mainly used for leakage current test of iron core and clamps of transformer, reactor and other electrical equipment. It can discover the latent faults of transformer in time, and is the main tool to ensure the safe operation and normal maintenance of transformer.
- 2.Adopts 3.5 inch color touch screen, real-time display the measured current value and waveform, convenient to operation.
- 3.Large caliber current clamp, no need to disconnect the tested line, easy to carry especially suitable for online testing in field. Non-contact measurement, fast, safe and reliable.
- 4.The current clamp adopts Permalloy iron core and CT double-layer shielding technology, which performance stability, high accuracy and strong anti-interference ability, suitable for complex interference environment.
- 5.Alarm function, data storage function, time setting function, serial number setting function.
- 6.With USB interface, communication cable and software, monitoring software has online real-time monitoring and historical data reading, consulting, saving, report and other functions.

Technical Specification

Model	ETCR8100B
Power Supply	DC 9V alkaline dry battery LR6 1.5VX6
CT Caliber	80mmX80mm
Current Range	AC 0.00mA ~100A
Min Resolution	0.01mA
Accuracy	±1.5%±3dgt
Frequency Range	10Hz~1000Hz
Display Mode	3.5 inch color touch LCD screen (320dots X 240dots); display area: 71mm X 53mm
Operation Mode	Simultaneously have intelligent touch and button control mode
Host Dimension	198mmX100mmX45mm
CT Size	194mmX145mmX40mm
Weight	1230g (with battery)
Sampling Rate	2 times / second
Data Storage	200 groups (Power down and replace the battery will not lose the data)
Date and Clock	With date and clock setting function
Sample Serial Number	With test point serial number setting function
Automatic Shutdown	With automatic shutdown or not setting function, default 5 minutes after power on will automatic shutdown.
USB Interface	With USB interface to import storage data into the computer
Alarm Settings	Alarm threshold setting range: 10mA ~ 99.99A
Alarm Indication	When the test value exceeds the alarm threshold, the LCD flashes and the buzzer sounds
Line Voltage	Below AC 600V circuit measurement
Overflow Display	Exceed measure range overflow function: "OL" symbol display
Battery Voltage	When the battery voltage lower than 7.2V ± 0.1V, low battery voltage symbol display, and remind to replace the battery
Rated Current	Max 180mA
Lead Cable Length	Current clamp lead cable length 2M
Accessories	Host: 1PCS; Current Clamp: 1PCS; USB communication cable: 1PCS; Alkaline dry battery LR6 1.5V: 6PCS; Aluminum case: 1PCS

ETCR8000 Wireless Transmission Current On-Line Monitoring System



Product Profile

The system consists of monitor, mobile terminal, cloud server and system software. The monitor will use 4G communications mode upload the test data or leakage events to cloud server, the user can view the current real-time monitoring data (current value, battery, monitor number, etc.) at any time via the PC or mobile phones, PDA, IPAD and other mobile terminal, which support all kinds of platform Windows system, Android, IOS and Huawei HongMeng OS system. Users can know the real-time monitoring of the on-site current situation easily and timely. The instrument are widely used in electric power, communication, meteorology, railway, oil field, construction, measurement, scientific research and teaching units, industrial and mining enterprises and other fields.

Product Function

On-line monitoring the AC leakage current and current. On-line monitoring the leakage current of low voltage transformer area. Used to check the insulation fault of the circuit, monitoring the intermittent leakage fault, check the time of insulation fault, and locate the fault etc.

Product Feature

1. Data statistics function: The system counts the uploaded data, realizes two viewing modes, table and line graph, monitors and displays the maximum current value and leakage times in real time, which is convenient, efficient and practical. On the PC terminal, you can quickly query by pressing the time button, and all the monitoring data within the time will be displayed in one of the two modes of table or line graph.
2. Quick function (positioning function): The installation location and brief address can be set according to the actual monitoring location or address. When a leakage event occurs, you can quickly locate and understand the relevant leakage situation. In the monitor list, you can quickly query the relevant information of the corresponding monitor, that is, the monitoring data, by searching the monitor number or brief address.
3. Alarm function: Monitor leakage alarm: When the current value exceeds the alarm value, the system will have a corresponding prompt. Monitor battery power alarm: When the battery is low, there will also be a corresponding prompt.
4. Monitor management function: Efficiently manage the monitor through the account, change the brief address and installation location at any time, so that each monitoring can ensure accurate positioning when a leakage event occurs. You can view the number of monitors bound to the account, automatically classify the monitor type, and the maximum number of instruments bound to the account.
5. Monitor binding function: Bind the tester through the account, that is, add a monitor. You can also unbind the tester through the account, that is, delete the monitor. An account can have up to 200 monitors (customizable as needed).
6. Model E has a power-drawing function. When the line current is greater than 100A, the device can be charged by drawing power to maintain long-term use.

Monitor Specification

	ETCR8042	ETCR8042A	ETCR8042E	ETCR8072	ETCR8072A	ETCR8072E
Monitor Model						
Measure Range	AC 0.0mA~300A	AC 0mA~600A	AC 0mA~650A	AC 0.0mA~600A	AC 0mA~1000A	AC 0mA~1200A
Max. Resolution	±1.5%rdg±5dgt			±1.5%rdg±5dgt		
Max. Measure Accuracy	0.1mA			0.1mA		
Clamp Jaw Size	Φ40mm			Φ70mm		

ETCR8042/8042A/8042E/8072/8072A/8072E Wireless Clamp Current Monitor

Product Function

The clamp current monitor adopt with wireless communication way to upload test data to concentrator or server for real-time monitoring the current, leakage current, troubleshooting of circuit insulation fault, monitoring of intermittent leakage fault, checking the time of insulation fault and fault location, etc.

Product Feature

- 1.The built-in communication module supports 4G communication mod.
- 2.Adopt the clamp structure and no need to disconnect the tested circuit line, the test is safe and fast. Adopt double layer magnetic shield and digital integration technology, strong anti-interference and high precision.
- 3.With the function of waterproof and dust proof, protection grade IP65.
- 4.With anti-theft function, equip with built-in electronic lock, control the clamp lock or unlock by infrared remote controller , can be installed in the outdoor and easy for using.
- 5.With LCD display screen (display: current value, battery power, monitor number, network signal strength) can be used as a clamp ammeter, which is a multi-purpose machine.
- 6.Built-in large capacity lithium battery, ultra-long battery life, continuous online testing for 10 days.
- 7.E Models have power extraction function function. When the line current is greater than 100A, the device can be charged by power extraction function to keep long-term use.



Technical Specification

Monitor Model	ETCR8042	ETCR8042A	ETCR8042E	ETCR8072	ETCR8072A	ETCR8072E
Measure Range	AC 0.0mA-300A	AC 0mA-600A	AC 0mA-650A	AC 0.0mA-600A	AC 0mA-1000A	AC 0mA-1200A
Max. Resolution	AC 0.1mA	AC 1mA	AC 1mA	AC 0.1mA	AC 1mA	AC 1mA
Max. Measure Accuracy	±1.5%rdg±5dgt			±1.5%rdg±5dgt		
Clamp Jaw Size	Φ40mm			Φ70mm		
Meter Size	198mm×95mm×50mm			244mm×130mm×50mm		
Weight	About 350g			About 590g		
Communication Mode	4G communication mode					
Sampling Frequency	1 times/second					
Upload Frequency	1 times/10 minutes (If the monitoring data exceeds the alarm value, upload the data at once)					
Upload Data	Product number + message type + product type number + data packet number + average leakage current within 1 minutes + peak leakage current within 1 minutes + remaining battery power + present detection date and time.					
Power Extraction Function	-	-	Yes	-	-	Yes
Power Extraction Charge Current	-	-	30mA(when line current 100A)	-	-	30mA(when line current 100A)
Battery Life	240 hours					
Power Supply	18650 lithium battery 2PCS(6700mAh)					
Charge Mode	Integrated type, optional 1charge socket/3 charge socket/ 5 charge socket					
Anti-theft function	equip with built-in electronic lock, control the clamp lock or unlock by infrared remote controller					
LCD Size	35mmX21.5mm; display area: 32mmX15mm					
Indicator	Charging indicator: Infrared connector: Network indicator: alarm indicator					
Waterproof Level	IP65 of circuit part					
Insulation Strength	AC2KV/rms (between the iron core and case)					

ETCR8300/8300A/8300F Three Channel Clamp Current Recorder

Product Function

At the same time online monitoring and recording 1 ~ 3 channel AC leakage current and current, used for circuit insulation fault troubleshooting, monitoring intermittent leakage fault, check the happen time of insulation fault and maintenance lines, etc.

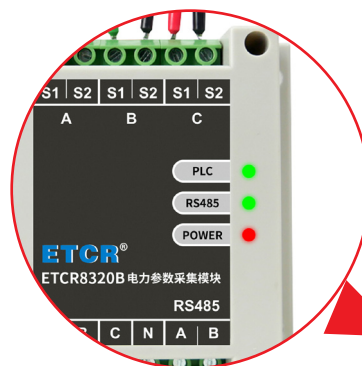
Product Feature

- 1.The current clamp adopts magnetic shield and digital integration technology, which has strong anti-interference and high precision. The host can configurable 1-3 PCS current clamp, the user chooses and purchase according to the demand.
- 2.Equipped with rechargeable lithium battery, long duration, which can continues working about 168 hours continuously in power-saving mode, replace battery will not lost data.
- 3.System clock function. Data storage function, large storage space for 200,000 groups
- 4.With USB interface, communication cable and software, data upload software ,with functions of historical data reading, review, saving, reporting, etc.

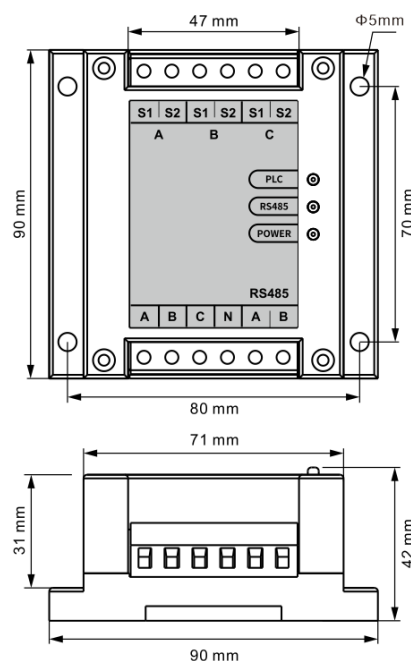
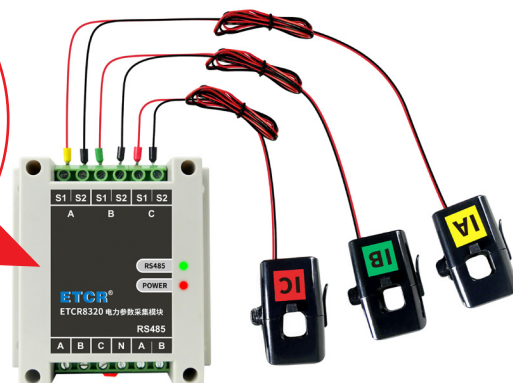
Technical Specification

	ETCR8300	ETCR8300A	ETCR8300F
Model			
			
Range	AC 0.00mA ~20A	AC 0mA~500A	AC 0.00A~20.00kA
Resolution	AC 0.01mA	AC 1mA	AC 10mA
Accuracy	±1%rdg±5dgt	±1.5%rdg±5dgt	±2%rdg±5dgt
Jaw Size	25mmX30mm	35mmX40mm	Φ50mm ~Φ1500mm
CT Size	115mmX70mmX33mm	125mmX70mmX37mm	-
Weight	about 292g (with battery)	about 292g (with battery)	292g (with battery)
Power Supply	Rechargeable lithium battery DC3.7V , 2600mAh		
Current Clamp Quantity	1-3 PCS (choose according the demand)		
*Flexible Coil Diameter	Φ7.5mm (8300F)		
Meter Dimension	78mm(L)X165mm(W)X42mm(H)		
LCD Size	Display area: 44mmX27mm		
Position Error	The tested conductor wire should try to be in the center of the flexible coil		
USB Interface	With USB interface, storage data can be uploaded to computer		
Data Storage	200,000 groups (Power down or replace battery will not lose the data)		
Record Period	Set the record interval time within 1 second ~ 99 minutes, 0 seconds is not automatically stored.		
Record Time	Interval time 1 seconds, can continues recording 48 hours		
	Interval time 10 seconds, can continues recording 120 hours		
	Interval time 1 minute, can continues recording 168 hours		
Download Speed	60KB/ Min		
Overflow Display	Exceed measure range overflow function: "OL" symbol display		
Rated Current	In power save mode about 5mA, Max about 35mA		
Line Voltage	Below AC600V circuit test		
Battery Voltage	Battery power real-time display, low battery voltage will remind to replace the battery		
Accessories	Host: 1PCS; Current clamp: 1~3PCS; USB communication cable/charger cable: 1PCS; Power adapter : 1PCS; Cloth bag: 1PCS		

ETCR8320/8320B Electric Power Parameters Collection Module



Type B with PLC communication



Product Function

Used for on-line real-time monitoring and recording 3 channels of AC current, AC voltage, reactive power, active power, apparent power, power factor, distortion rate, harmonics, unbalance, power flow direction and other power parameters. Widely used for online monitoring the AC current, ground loop current and AC voltage of electrical devices and equipment, which provide safe, accurate and convenient power parameters for power inspectors.

Product Feature

1. The collection module can connect 3 channels of current transformers and 3 channels of voltage transformers.
2. Applicable to single-phase lines and three-phase four-wire lines.
3. Provide RS485 communication function and MODBUS communication protocol, which is convenient for users to develop secondary development. Type B has PLC communication.
4. The sensor available in round, flat, waterproof and other styles for users to choose.
5. Adopt with split core type structure CT, which no need power off and disconnect the cable on site installation.
6. The data collection module is compact size which is particularly suitable for installation in places with limited space, such as JP cabinets and substation rooms. There are two installation methods: screw installation or guide rail installation.

Technical Specification

CT Name	Open-close type leakage current sensor	Split core type current sensor	Water proof type current sensor (IP68)	Flat type current sensor
CT Model	006F	060J	065P	6416B
Current Range	0mA~5A	0.0A~600A	0.0A~600A	0.0A~600A
CT Caliber	6mmX6mm	φ60mm	65X68mm	64mmX16mm
CT Size	25mmX18mmX18mm	123mmX123mmX33mm	148mmX145mmX55mm	133mmX45mmX64mm
Voltage Range	50.0V~300.0V; ±0.5%			
Active power	0.000kW~1.5kW/180kW; ±1.0% (adapted according to current range)			
Apparent power	0.000kVA~1.5kVA/180kVA; ±1.0% (adapted according to current range)			
Reactive power	0.000kVar~1.5kW/180kWVar; ±1.0% (adapted according to current range)			
Power factor	0.0~1.0; ±1.0%			
Power Supply	Rated voltage AC 220V (voltage interface power supply)			
Collection Module Size	93mmX90mmX42mm			
Collection Module Weight	About 146g			
Communication Mode	RS485 (Support MODBUS-RTU communication protocol); PLC communication (only for B type)			
Indicator Lights	Power indicator, RS485 communication indicator, PLC communication indicator (only for B type)			
Insulation resistance	≥100MΩ			
Overload capacity	2 times rated current: 1 minute			
Accessories	Collection module: 1PCS; Current sensor: 3PCS (Optional)			

ETCR8600A Leakage Protector(RCD) Tester




Product Function

Applied to test the leakage initiating separation time, line AC voltage of various leakage protectors online

Product Features

1. The tester equip with large LCD display, white screen backlight, bar diagram indication. Output current, initiating time, battery power and phase are displayed on the same screen
2. With the functions of automatic shutdown, setting fault voltage indication, phase selection, backlight selection, data storage, etc.
3. The test current from 3~500mA with 18 grade, to meet the needs of various uses

Technical Specification

Power Supply	DC 9V (Alkaline dry cell R14 1.5VX6PCS)
Rated Voltage	AC 220V (leakage protector testing,between interface)
leakage protector test line	220V/380V
Leakage Current Gears	3mA, 5mA, 7mA, 10mA, 15mA, 20mA, 30mA, 35mA, 50mA, 100mA, 125mA, 150mA, 175mA, 250mA, 275mA, 300mA, 375mA, 500mA (18 grade)
Current Accuracy	$\pm 10\%rdg \pm 5dgt$
Leakage Initiating Time Range	0~999ms
Leakage Initiating Time Accuracy	$\pm 5\%rdg \pm 3dgt$
AC Voltage Range	0~600V
AC Voltage Accuracy	$\pm 2\%rdg \pm 3dgt$
Phase Select	0°/ 180°
Failure Information Indication	LCD display "999" over time indication, it is possible that the rated initiating current grade of tested is too small or the leakage protector is faulty
Test Mode	Manual or automatic
Display Mode	4-digital large LCD display, white screen backlight
Teter Dimension	215mmX178mmX83mm
Tester Weight	Host: 955g (with battery); Total weight: 2kg (include all accessories)
Battery Voltage	When the battery voltage lower than 7.4V, low battery voltage symbol "  " display, and remind to replace the battery
Working Current	100mA Max
Working Temperature	-10°C ~40°C , below 80%RH
Storage Temperature	-10°C ~60°C , below 70%RH
Insulation Strength	$\geq 100M\Omega$, AC 2kV/rms (between the shell and the screw).
Suitable Safety Standard	IIEC1010-1, IEC1010-2-032, Pollution degree 2, CAT III(600V) IEC61326 (EMC standard).
Accessories	Host: 1PCS; Probe test lines: 2PCS; Alligator clip: 1PCS; Tool bag: 1PCS; Alkaline dry cell R14 1.5V: 6PCS

ETCR8600B Leakage Protector Tester



Product Function

Testing leakage operating time of various leakage protector.

Product Features

1. Leakage protection tester, adopts touch color screen, with testing current and multiplier selection, phase angle selection, setting fault voltage indication, backlight brightness adjustment, internal wiring guidance diagram, battery power display and other functions
2. Optional 5 ~ 1000mA 16 gears test current to meet various require of usage.
3. With AC voltage test grade, which can test the real-time line AC voltage of the protector
4. Adopt rechargeable large capacity lithium battery

Technical Specification

Power Supply	DC7.4V, 2600mAh rechargeable lithium battery (full about 8.4V)
Leakage Protection Switch Test Circuit	220V/380V
Rated Voltage	AC 220V
Leakage Current Gears	(5, 10, 15, 20, 30, 40, 50, 60, 100, 150, 200, 250, 300, 500, 600, 1000)mA
AC Voltage Range	0~600V
Leakage Current Operating Time Range	0~999ms
Gears Current Accuracy	±10%rdg±5dgt
AC Voltage Accuracy	±2rdg%±3dgt
Failure Information Indication	LCD display "999" over time indication, it is possible that the rated initiating current grade of tested is too small or the leakage protector is faulty
Test Wire Length	1.5M
Test Mode	Manual or automatic
Display Mode	LCD: 5 inch TFT color touch screen
Tester Dimension	215mmX178mmX83mm
Data Storage	100 groups
System Clock Function	Yes
Battery Voltage	When the battery voltage lower than 7.0V, low battery voltage symbol display, and remind to replace the battery. The measurement value is also accurate at this time
Working Current	365mA Max
Working Temperature	-10°C ~40°C ; below 80%RH
Store Temperature	-10°C ~60°C ; below 70%RH
Insulation Withstand Voltage	100MΩ or larger, AC 2KV/rms (between shell and the screw)
Suitable Safety Standard	IEC1010-1, IEC1010-2-032, Pollution Level2, CAT III (600V) IEC61326(EMC standard)
Accessories	Host: 1PCS; Probe test wire: 1PCS; Alligator clip test wire: 1PCS; Socket test wire: 1PCS; Instrument bag: 1PCS; Charger: 1PCS

ETCR8610 Leakage Protector(RCD) Tester



Product Function

Testing leakage operating time of various leakage protector..

Product Features

- 1.Test current from 10 to 35mA of 6 gears (10mA,15mA, 20mA, 25mA,30mA, 35mA).
- 2.Test leakage operating time range: 0.001s~1.000s.
- 3.The instrument is high accuracy, small in size and light in weight, easy to carry, especially suitable for on-site detection of leakage protector.

Technical Specification

Power Supply	DC9V, alkaline dry battery (6LR61 9V)
Rated voltage	AC 220V (between instrument interfaces when testing leakage protection switch)
Leakage Current Gears	10mA,15mA, 20mA, 25mA,30mA, 35mA
Grade Current Accuracy	$\pm 10\%rdg \pm 2dgt$
Leakage Current Action Time Range	0.001s~1.000s
Leakage Current Action Time Accuracy	$\pm 5\%rdg \pm 3dgt$
LCD Size	35mmX21.5mm; Display area: 32mmX15mm
ABC Indicator	Socket working status indicator
TESTING Indicator	Flashing during the test
Failure Information Indication	LCD display "fault" failure information indication, it is possible that the rated initiating current grade of tested is too small or the leakage protector is faulty
Test Wire Length	1.5M
Test Mode	Manual or automatic
Battery Voltage	When the battery power is low, the low battery voltage symbol is displayed to remind you to replace the battery.
Working Current	Standby 6mA MAX, test 40mA MAX
Rated Voltage	AC 220V
Tester Weight	1kg (include accessories)
Tester Dimension	140mmX70mmX50mm
Test Line Voltage	Below AC 250V
Working Temperature	-10°C ~40°C ; below 80%RH
Accessories	Host: 1PCS; Tool bag: 1PCS; 6LR61 battery: 1PCS

ETCR8620 Leakage Protector(RCD) Tester



Product Function

Testing the leakage operating time of various leakage protector(RCD).

Product Features

1. Test current from 5mA~1000mA total of 12 gears (5mA, 15mA, 30mA, 50mA, 75mA, 100mA, 150mA, 200mA, 250mA, 300mA, 500mA, 1000mA).
 2. Test leakage operating time range: 0.001s~1.000s.
- The tester is high accuracy, small in size and light in weight, easy to carry, especially suitable for on-site detection of leakage protector(RCD).

Technical Specification

Power Supply	DC 6V alkaline dry battery LR03 1.5V*4PCS
Rated Voltage	AC 220V(When testing the leakage protection switch/device, between the interface of the tester)
Leakage Protector(RCD) Test Circuit Loop	220V/380V
Leakage Current Gears	5mA, 15mA, 30mA, 50mA, 75mA, 100mA, 150mA, 200mA, 250mA, 300mA, 500mA, 1000mA
Current Gears Accuracy	±10%rdg+2dgt
Leakage Operation Testing Time Range	0.001s~1.000s
Leakage Operation Time Display Accuracy	±5%rdg+3dgt
LCD Dimension	Display area: 46mmX28mm
Failure Information Indication	LCD display "Err" failure information indication, it is possible that the tested rated initiating current gear is too small or the leakage protector is faulty
Test Wire Length	1.5m
Test Mode	Manual or automatic
Battery Voltage	When the battery voltage lower than 4.8V, low battery voltage symbol display, and remind to replace the battery. The measurement value is still accurate at this time
Working Current	40mA Max
Rated Voltage	AC 220V
Tester Weight	Appx. 1kg(include accessories)
Tester Dimension	170mmX80mmX43mm
Working Temperature	-10°C ~40°C ; below 80%RH
Accessories	Host: 1PCS; Probe test wire: 2PCS; Alligator clip : 1PCS; Socket test wire: 2PCS; Tool bag: 1PCS

ETCR9000/9000A/ 9000B H/L Voltage Clamp Current Meter




Product Function

Measurement of H/L voltage AC current below 110kV. (Above 600V, operate with insulation rod).

Product Feature

- 1.The current clamp adopts magnetic shield and CT digital integration technology, with strong anti-interference, high accuracy and stable test.
- 2.The innovative automatic plug and pull structure makes the meter easy to clamp or withdraw the tested wire by pressing or pulling the insulation rod, saving time and convenient.
- 3.ETCR9000A with the Bluetooth communication, after installation the APP(support android system)mobile terminals can be used to testing operations and view test records.
- 4.ETCR9000B with wireless communication function, and the test results can be viewed in real time on the handheld receiver.

Technical Specification

Model	ETCR9000	ETCR9000A	ETCR9000B
			
Line Voltage	Below 110kV, operate with insulation rod		
Measurement Range	AC 0mA~1200A		
Max Resolution	1mA		
Test Accuracy (23°C ±5°C , below 80%RH)	0mA~99.9A: ±1%rdg±5dgt		
	100A~599A: ±1.5%rdg±5dgt		
	600A~1200A: ±2%rdg±5dgt		
CT Size	Φ48mm		
Meter Dimension	255mmX84mmX39mm	255mmX84mmX39mm	255mmX84mmX39mm Receiver: 165mmX78mmX42mm
Meter Weight	3kg (include insulation rod)	3kg (include insulation rod)	3.3kg (include insulation rod)
Power Supply	6V DC(LR03X4pcs alkaline dry batteries)	lithium battery DC 7.4V 600mAH	6V DC(LR03X4pcs alkaline dry batteries)
LCD Size	47mmX28.5mm	47mmX28.5mm	47mmX28.5mm
Sampling Rate	2 times/s	2 times/s	2 times/s
Communication Mode	-- --	Bluetooth, straight distance 10m	Wireless transmission, straight distance 30m
PEAK Hold	Automatically hold the highest test value	Automatically hold the highest test value	-- --
Data Hold	In usual test mode, press HOLD key to keep data, " HOLD " symbol display		
Data Storage	99 groups , stored process display MEM symbol, " FULL " symbol display indicate that storage full		
Data Access	" MR " symbol indication, can access all storage data		
Overflow Display	Exceed measure range overflow function: " OL A " symbol display		
Automatic Shutdown	15 minutes after boot up, the meter shuts down automatically without any operation, to reduce battery consumption		
Battery Voltage	When battery voltage is lower , low battery voltage symbol " ⎓ " display and remind to charge.		
Line Voltage	Below 110kV current test , operate with insulation rods (below 500kV can be customized , only for ETCR9000B)		
Insulation Rod Dimension	About 4300 mm		
Insulation Rod Withstand Voltage	110kV (The telescopic insulation rod is fully opened between the two ends)		
Accessories	Meter: 1PCS; flexible insulation rod : 1PCS; Tool bag: 1SET; LR03 battery: 4pcs	Meter: 1PCS ; Charger: 1PCS; flexible insulation rod: 1PCS; Tool bag: 1SET	Meter: 1PCS; Receiver: 1PCS; flexible insulation rod: 1PCS ; Tool bag: 1SET; LR03 battery: 8pcs

ETCR9000S/ ETCR9100S H/L Voltage Clamp Current Meter

Product Function

Measurement of H/L voltage AC leakage current and current. (Above 600V, operate with insulation rod).

Product Feature

- 1.The current clamp adopts magnetic shield and CT digital integration technology, with strong anti-interference, high accuracy and stable test.
- 2.The innovative automatic plug and pull structure makes it easy to clamp or withdraw the tested wire by pressing or pulling the insulation rod, saving time and convenient.
- 3.Peak hold, data hold and data memory function.

Technical Specification

	ETCR9000S H/L Voltage Clamp Current Meter	ETCR9100S H/L Voltage Clamp Current Meter
Model		
Measurement Range	0mA~1200A (50/60Hz automatic)	0.00mA~600A (50/60Hz automatic)
Resolution	1mA	0.01mA
CT Size	φ48mm	φ33mm
Meter Dimension	255mmX84mmX39mm	245mmX72mmX39mm
Weight	1080g (include insulation rod and battery)	900g (include insulation rod and battery)
Test Accuracy (23°C ±5°C ,below 80%RH)	0mA~99.9A: ±1%rdg±5dgt	0.00mA~299mA: ±1%rdg±5dgt
	100A~599A: ±1.5%rdg±5dgt	0.30A~49.9A: ±1.5%rdg±5dgt
	600A~1200A: ±2%rdg±5dgt	50.0A~199A: ±2%rdg±5dgt
	-	200A~600A: ±3%rdg±5dgt
Insulation Rod Dimension	About 900mm	
Line Voltage	Below 10kV (operate with insulation rods)	
Power Supply	6V DC (LR03X4 alkaline dry batteries)	
LCD Dimension	47mmX28.5mm	
Sampling Rate	2 times/s	
PEAK Hold	Automatically hold the highest test value. In the test mode, short press the PEAK key until the PEAK light on, which turns on the PEAK hold function	
Data Storage	99 groups , stored process display MEM symbol, "FULL" symbol display indicate that storage full	
Data Hold	In usual test mode, press HOLD key to keep data, "HOLD" symbol display	
Data Access	"MR" symbol indication, can access all storage data	
Overflow Display	Exceed measure range overflow function: "OL A" symbol display	
Automatic Shut Down	15 minutes after boot up, the meter shuts down automatically without any operation, to reduce battery consumption	
Battery Voltage	When battery voltage is lower than 4.8V, low battery voltage symbol "E + B" will display and remind to replace battery.	
Interference	No interference of 315MHz and 433MHz same frequency signals	
Insulation Strength	Between the 3rd insulation rod and high voltage meter shell: AC 100kV/rms; Between high voltage meter shell and iron core: AC1000V/rms	
Accessories	Meter: 1PCS; Insulation rod (900mm): 1PCS; Tool bag: 1SET; LR03 Alkaline dry battery: 4PCS	

ETCR9100/ ETCR9100B/9150B H/L Voltage Clamp Current Meter

Product Function

H/L voltage AC leakage current and current measurement. (Above 600V operate with insulation rods).

Product Feature

- 1.The current clamp adopts magnetic shield and CT digital integration technology, with strong anti-interference, high precision and stable test.
- 2.The innovative automatic plug and pull structure makes it easy to clamp or withdraw the tested wire by pressing or pulling the insulation rod, safe and more effect.
- 3.Peak hold, data hold and data storage functions.
4. ETCR9150B can be customized to increase Bluetooth communication, straight-line distance 10m.

Technical Specification

Model	ETCR9100 H/L Voltage Clamp Current Meter	ETCR9100B Wireless H/L Voltage Clamp Current Meter	ETCR9150B Wireless H/L Voltage Clamp Current Meter
			
Measurement Range	AC 0.00mA~600A (50/60Hz Auto)	AC 0.00mA~600A(50/60Hz Auto)	AC 0mA~1200A
Resolution	0.01mA	0.01mA	1mA
Test Accuracy	0.00mA~100A: ±1%rdg±5dgt 101A~600A: ±2%rdg±5dgt	0.00mA~100A: ±1%rdg±5dgt 101A~600A: ±2%rdg±5dgt	0mA ~99.9A: ±1%rdg±5dgt 100A~599A: ±1.5%rdg±5dgt
CT size	Φ33mm	Φ33mm	Φ36mm
Meter Dimension	245mmX72mmX39mm	245mmX72mmX39mm	297mmX119mmX58mm
Weight	3kg (include insulation rod and battery)	3.3kg (include insulation rod and battery)	3.3kg (include insulation rod and battery)
Meter Dimension	Receiver: 78mmX165mmX42mm (only 9100B/9150B)		
LCD Dimension	47mmX28.5mm		
Power supply	6V DC (LR03X4 alkaline dry batteries)		
Insulation Rod Size	4300mm		
Sampling Rate	2 times/second		
*PEAK Hold	Automatically hold the highest test value. In the test mode, short press the PEAK key until the PEAK light on, which turns on the PEAK hold function (only for ETCR9100)		
*Communication Mode	wireless transmission, straight distance transmission 30m(only to ETCR9100B/9150B)		
Data Hold	In usual test mode, press HOLD key to keep the data, display "HOLD" symbol, press HOLD key again cancel		
Data Storage	99 groups , storage process display MEM symbol , "FULL" symbol display indicate that storage full		
Data Access	"MR" symbol indication, can access all storage data		
Overflow Display	Exceed measure range overflow function: "OL A" symbol display		
Automatic Shut Down	15 minutes after boot up, the meter shuts down automatically without any operation, to reduce battery consumption		
Battery Voltage	When battery voltage is lower than 4.8V, low battery voltage symbol "  +b" will display and remind to replace battery.		
Line Voltage	Below 60kV current test with insulation skin wire, below 35kV current test with bare wire(operation with insulation rods)		
Insulation Strength	The telescopic insulation rod is fully opened between the two ends: AC 100kV/rms; Between high voltage meter shell and iron core: AC1000V/rms		
Accessories	Meter: 1PCS; Scalable insulation rod: 1PCS; Tool bag: 1SET; LR03 battery: 4PCS	Meter: 1PCS; Receiver: 1PCS; Scalable insulation rod: 1PCS; Tool bag: 1SET; LR03 battery: 8PCS	

ETCR9310B / 9330B Wireless H/L Voltage U-Type Current Meter

Product Function

On-line AC current measurement below 500kV (above 600V operate with insulated rod).

Product Feature

- 1.Unique U-type opening structure realizes the unimpeded measurement, and it is very convenient for field test.
- 2.Suitable for Large current measurement, range: 0.00A ~ 9999A
- 3.Wireless transmission, the transmission distance is 100m.
- 4.Data hold function, data storage function.

Technical Specification

Model	ETCR9310B Wireless H/L Voltage U-Type Current Meter	ETCR9330B Wireless H/L Voltage Hook Type Current Meter
CT Size	Φ68mm	Φ128mm
Meter Dimensions	Detector: 107mmX252mmX31mm Receiver: 78mmX165mmX42mm	Detector: 210mmX246mmX45mm; Receiver: 78mmX165mmX42mm
Weight	about 4.23kg (including insulation rod and accessories)	about 2300g (include insulation rod and battery)
Measurement Range	0.00A~9999A (50/60Hz automatic)	
Resolution	0.01 A	
Shift	0.00A~9999A automatic shift	
Test Accuracy	±2%rdg±5dgt (The wire is near the center of the bottom end of the U-type clamp,23°C ±2°C)	
Power Supply	6V DC (1.5V AAAX4 alkaline dry batteries)	
Test Mode	Non-contact U-type CT	
Transmission Mode	433MHz wireless transmission, transmission distance is about 100 meters	
Display Mode	4-digit LCD display, backlight function, suitable for measurement in dark place	
Insulation Rod Dimension	4300mm	
LCD Size	47mmX28.5mm	
Sampling Rate	2 time/second	
Position Error	The measured conductor should be located as close as possible to the center of the bottom end of the U-type clamp.	
Data Storage	99 groups, in storage process "MEM" symbol display, "FULL" symbol flash display indicate storage is full	
Line Voltage	Below 110kV current test , operate with insulation rods (below 500kV can be customized)	
Data Hold	In usual test mode, press HOLD key to keep data, "HOLD" symbol display	
Data Access	"MR" symbol display, it can look over all the stored data	
Overflow Display	Exceed measurement range overflow function: "OL A" symbol display	
No Signal Indication	When the receiver has not received transmit signal, dynamic display "no-"symbol	
Automatic Shutdown	15 minutes after boot up, the meter shuts down automatically without any operation, to reduce battery consumption	
Battery Voltage	When battery voltage is lower than 4.8V+0.2V, low battery voltage symbol " " will display and remind to replace battery.	
Working Temperature	-10°C ~ 40°C ; Below 80%RH	
Interference	Should try to avoid 315MHz, 433MHz same-frequency signal interference	
Insulation Strength	AC 220kV/rms (The telescopic insulation rod is fully opened between the two ends)	
Accessories	Clamp meter: 1PCS; Receiver: 1PCS; Telescopic insulating rod: 1PCS; Cloth bag: 1PCS; LR03 Alkaline dry battery: 8PCS	

ETCR9400 Zinc Oxide Arrester Electrified Tester



Product Function

Used for testing the leakage current of the zinc oxide arrester below 35kV circuit line to judge whether the performance of the arrester is deteriorating.

Product Features

1. There is no need to cut off power supply during the test, no need to remove the arrester, safe and fast to operate.
2. The current clamp with strong anti-interference ability, and with microampere level leakage current test ability, which can test 1uA weak current, also can be used as high accurate clamp ammeter.
3. Adopt wireless communication mode, the master instrument can close or open the detector remotely, check the working condition of the clamp jaw and reading current data.
4. The detector can be connected with insulation rod to use.
5. With USB interface, data storage and upload functions.

Technical Specification

Power Supply	Master: DC 7.4V 2000mAh rechargeable battery, full charge about 8.4V Detector: DC 7.4V 2600mAh rechargeable battery, full charge about 8.4V
Test Mode	Clamp CT
Measurement Range	AC 0.000mA~300.0mA (True RMS)
Resolution	1uA
Accuracy	±1%rdg±8dgt (23°C ±5°C , below 80%RH)
Communication Mode	433MHz wireless communication
Communication Distance	30m
Display Mode	3.5 inch color screen; Display area: 71mmX53mm
Meter Size	Master: 195mmX100mmX45mm; Detector: 208mmX131mmX90mm
Meter Weight	Master: 400g; Detector: 1236g; Total Weight: 7400g (including insulation rod and case)
CT Size	φ40mm
Sampling Rate	2times/second
Data Storage	200 groups,display "HOLD" symbol in storage process
Data Hold	In test mode, press HOLD key to hold data and store data, "HOLD" symbol is displayed, and then press HOLD key to cancel.
Data Access	"READ"symbol is displayed, can browse all stored data
Overflow Display	Over range overflow function:"OL" symbol is displayed
Automatic Shutdown	About 10 minutes after power on, the meter shuts down automatically to reduce battery consumption.
Battery Voltage	When the battery power is low, the battery voltage low symbol is displayed to remind the meter need to charged
USB Interface	The master equip with USB interface,can upload the stored data to computer
Line Voltage	Below 35kV
Insulation Rod Dimension	φ44mm
Working Temperature	-20°C ~ 40°C ; below 80%RH
Accessories	Master: 1PCS; Detector: 1PCS; Telescopic Insulation rod: 1PCS; Emergency pull ring: 1PCS; Charger: 1PCS; USB communication cable: 1PCS

ETCR9500B Wireless High Voltage CT Transformation Ratio Tester

Product Function

Measurement of primary and secondary circuit current, transformation ratio, polarity and phase of current transformers and potential transformers below 35kV.

Product Feature

- 1.Current clamp adopts high performance Permalloy core and magnetic shield technology, with strong anti-interference, high accuracy and test of stability.
- 2.Primary high voltage current clamp adopts innovative automatic plug and pull structure makes it easy to clamp or withdraw the tested wire by pressing or pulling the insulation rod, saving time and convenient.
- 3.Primary high voltage current clamp adopts wireless transmission mode, transmission distance 100M
- 4.Data hold function, data storage function, data upload function



Technical Specification

Model	ETCR9500B
Primary Current Test Accuracy	Range: 0.0A~800A; Resolution: 0.1; Accuracy: $\pm 0.5\%FS$ (23°C $\pm 3^{\circ}C$, below 70%RH, the conductor should be in the center of the clamp)
Secondary Current Test Accuracy	Range: 0.00mA~ 5A; Resolution: 0.01mA; Accuracy: $\pm 0.5\%FS$
Transformation Ratio Measurement Range	1~ 9999
Power Supply	DC6V alkaline batteries LR03 (1.5V X4pcs)
Host Dimension	78mmX165mmX42mm
Primary HV Current Clamp Size	Jaw Size: $\Phi 48mm$ Shape Size: 255mmX95mmX39mm
Secondary LV Current Clap Size	Jaw Size: $\Phi 16mm$ Shape Size: 110mmX53mmX22mm
Insulation Rod Dimension	4300mm
Insulation Rod Withstand Voltage	110kV
Weight	6.14 kg (include accessories)
Sampling Rate	2 times/second
Primary Current Clamp Transmission Distance	Wireless transmission distance 100m
Secondary Current Clamp Connection Cable Length	2m
Data Storage	3000 groups, Press the left arrow key to keep the data and store automatically (Power down or replace the battery will not lose data)
Data Hold	Press the left arrow key to hold data, "HOLD" symbol display, press "HOLD" key once again cancel the hold function
Data Access	Press the right arrow key enter into data access mode
Data Upload	With USB interface, communication cable and software, storage data can be uploaded to computer for reading, saving, printing and so on.
Overflow Display	Exceed measure range overflow function: "OL" symbol display
No Signal Indication	When the receiver has not received transmit signal, dynamic display "no- "symbol.
Automatic Shut Down	15 minutes after boot up, the meter shuts down automatically without any operation
Battery Voltage	When battery voltage is lower than $5.2V \pm 0.3V$, low battery voltage symbol " $\text{---} + \text{B}$ " will display and remind to replace battery.
External Interference	Should avoid extremely strong electromagnetic fields, avoid 315MHz, 433MHz same-frequency signal interference
Working Temperature	-15°C ~ 50°C ; Below 70%RH
Accessories	Receiver: 1PCS; Primary current clamp: 1PCS; Secondary current clamp: 1PCS; USB special communication cable: 1PCS; Telescopic insulating rod: 1PCS; Tool bag: 1PCS; Alkaline batteries LR03: 8PCS

ETCR9500C Three-Channel Wireless High Voltage CT Transformation Ratio Tester

Product Function

Measurement of primary and secondary current, transformation ratio, phase, polarity and phase sequence of current transformers and potential transformers below 35kV.

Product Feature

1. Simultaneous testing of three channel low voltage lines can directly confirm the corresponding phase relationship between the high voltage end and the low voltage end, Secondary lines do not require measurement many times by clamp.
2. Current clamp adopts high performance Permalloy core and magnetic shield technology, with strong anti-interference, high accuracy and test of stability.
3. The high voltage clamp adopts innovative automatic plug and pull structure makes it easy to clamp or withdraw the tested wire by pressing or pulling the insulation rod, saving time and convenient.
4. Data hold and data storage function. Data upload function

Technical Specification

Model	ETCR9500C-016	ETCR9500C-030
Applicable Place	Suitable for testing in places with dense flat cable of secondary line	Suitable for testing in places with large wire diameter of secondary lines.
Primary CT Size	Jaw Size: $\Phi 48\text{mm}$ Shape Size: 255mmX95mmX39mm	Jaw Size: $\Phi 48\text{mm}$ Shape Size: 255mmX95mmX39mm
Secondary CT Size	Jaw Size: $\Phi 16\text{mm}$ Shape Size: 110mmX53mmX22mm	Jaw Size: 25mm \times 30mm Shape Size: 115mmX70mmX33mm
Primary Current Test Accuracy	Range: 0.0A~800A; Resolution: 0.1A; Accuracy: $\pm 0.5\% \text{FS}$ ($23^\circ\text{C} \pm 3^\circ\text{C}$, below 70%RH, the conductor should be in the center of the clamp)	Range: 0.0A~800A; Resolution: 0.1A; Accuracy: $\pm 0.5\% \text{FS}$ ($23^\circ\text{C} \pm 3^\circ\text{C}$, below 70%RH, the conductor should be in the center of the clamp)
Secondary Current Test Accuracy (3 channel current display same screen)	Range: 0.00mA~5A; Resolution: 0.01mA; Accuracy: $\pm 0.5\% \text{FS}$	Range: 0.00mA~10A; Resolution: 0.01mA; Accuracy: $\pm 0.5\% \text{FS}$
Transformation Ratio Measurement Range	1~500	1~500
Power Supply	DC6V alkaline dry batteries (LR03 1.5V X 4PCS)	
Host Dimension	165mmX78mmX42mm	
Insulation Rod Dimension	4300mm	
Insulation Rod Withstand Voltage	110kV	
Weight	5kg (including insulation rod and battery and accessories)	
Transmission Distance	Primary current clamp wireless transmission distance 100m	
Connection Cable	Secondary current clamp connection cable 2m	
Data Storage	1500 groups, Press the left arrow key to keep the data and store automatically (Power down or replace the battery will not lose data)	
Data Hold	Press the left arrow key to hold data, "HOLD" symbol display, press "HOLD" key once again cancel the hold function	
Data Access	Press the right arrow key enter into data access mode	
Overflow Display	Exceed measure range overflow function: "OL" symbol display	
No Signal Indication	When the receiver has not received transmit signal, dynamic display "no-" symbol.	
Automatic Shut Down	15 minutes after boot up, the meter shuts down automatically without any operation	
Battery Voltage	When battery voltage is lower than 4.8V, low battery voltage symbol " $\text{—} + \text{—}$ " will display and remind to replace battery.	
External Interference	Should avoid extremely strong electromagnetic fields, avoid 315MHz, 433MHz same-frequency signal interference	
Working Temperature	$-15^\circ\text{C} \sim 50^\circ\text{C}$; Below 70%RH	
Accessories	Receiver: 1PCS; Primary current clamp: 1PCS; Secondary current clamp: 3PCS; USB special communication cable: 1PCS; Telescopic insulating rod: 1PCS; Tool bag: 1PCS; Alkaline battery LR03: 8PCS	

ETCR9550B Wireless High/Low Voltage CT Transformation Ratio Tester

Product Function


Measurement of primary and secondary circuit current, transformation ratio, angle error, polarity and phase sequence of current transformers and potential transformers below 35kV.

Product Feature

- 1.Current clamp adopts high performance Permalloy core, magnetic shield and CT digital integrated technology, with strong anti-interference ability, high accuracy for testing.
- 2.The primary high voltage clamp adopts innovative automatic plug and pull structure makes it easy to clamp or withdraw the tested wire by pressing or pulling the insulation rod, saving time and convenient.
- 3.The primary high voltage clamp adopts wireless transmission mode, transmission distance 100M.
- 4.The primary flexible current clamp is especially suitable for small space and flat cable dense places, more convenient and fast for testing.
- 5.Data hold function, data storage function, data upload function



Technical Specification

Model	ETCR9550B
Primary HV Current Clamp Test Accuracy	Range: 0.00A~ 800A; Resolution: 0.01A; Accuracy: $\pm 0.5\%FS$ ($23^{\circ}C \pm 3^{\circ}C$, below 70%RH, the conductor should be in the center of the clamp)
Primary Flexible Current Clamp Test Accuracy	Range: 0.0A~ 3000A; Resolution: 0.1A; Accuracy: $\pm 1.0\%FS$ ($23^{\circ}C \pm 3^{\circ}C$, below 70%RH, the conductor should be in the center of the clamp)
Secondary Current Clamp Test Accuracy	Range: 0.00mA~ 5A; Resolution: 0.01mA; Accuracy: $\pm 0.5\%FS$
Transformation Ratio Measurement Range	1~ 9999
Angle Error Test Accuracy	Range: 0~ 360°; Resolution: 1°; Accuracy: $\pm 3^{\circ}$
Power Supply	DC 6V alkaline dry batteries (LR03 1.5V X 4PCS)
Host Dimension	165mmX78mmX42mm
Primary HV Current Clamp Size	Jaw Size: $\Phi 48mm$; Shape Size: 255mmX95mmX39mm
Primary Flexible Current Clamp Size	Jaw Size: $\Phi 200mm$; Shape Size: 200mmX245mmX13mm
Secondary LV Current Clamp Size	Jaw Size: $\Phi 16mm$; Shape Size: 110mmX53mmX22mm
Insulation Rod Dimension	4300mm
Insulation Rod Withstand Voltage	110kV
Weight	Total Weight: 6.5 kg (include insulation rod and battery)
Sampling Rate	2 times/second
Primary Current Clamp Transmission Distance	Wireless transmission distance 100m
Current Clamp Connection Cable Length	2m
Data Storage	3000 groups, Press the left arrow key to keep the data and store automatically (Power down or replace the battery will not lose data)
Data Hold	Press the left arrow key to hold data, "HOLD" symbol display, press "HOLD" key once again cancel the hold function
Data Access	Press the right arrow key enter into data access mode
Data Upload	With USB interface, communication cable and software, storage data can be uploaded to computer for reading, saving, printing and so on.
Overflow Display	Exceed measure range overflow function: "OL" symbol display
No Signal Indication	When the receiver has not received transmit signal, dynamic display "no- "symbol.
Automatic Shut Down	15 minutes after boot up, the meter shuts down automatically without any operation
Battery Voltage	When battery voltage is lower than $5.2V \pm 0.3V$, low battery voltage symbol "  " will display and remind to replace battery.
External Interference	Should avoid extremely strong electromagnetic fields, avoid 315MHz, 433MHz same-frequency signal interference
Working Temperature	$-15^{\circ}C \sim 50^{\circ}C$; Below 70%RH
Accessories	Host: 1PCS; Primary HV current clamp: 1PCS; Primary flexible current clamp: 1PCS; Secondary current clamp: 1PCS; USB special communication cable: 1PCS; Telescopic insulating rod: 1PCS; Tool bag: 1PCS; Alkaline battery LR03: 8PCS

ETCR008/014/015 Sharp-nose type Leakage Current Sensor




Product Function

Measurement of AC leakage current, current, higher harmonic current, phase, power energy, power, power factor.

Product Feature

- 1.Clamp structure, no need to disconnect the tested line, portable and suitable for on-site online testing.
- 2.Non-contact measurement, easy to operate, fast, safe and reliable.
- 3.The clamp jaw is thin, suitable for narrow and small space.
- 4.Adopts Permalloy core, with stable performance and high accuracy, high anti-interference ability, suitable for complex interference environment.
- 5.The range, transformation ratio, output interface of the sensor can be customized according to customer requirements.
- 6.Output interface: $\phi 3.5\text{mm}$ Audio plug/BNC plug/4.0mm Double banana plug (optional). Wire length: 1.5M.
- 7.Insulating strength: AC3700V/rms (between the core and out shell)
- 8.Safety Level: CAT III 600V
- 9.Working temperature: $-15^{\circ}\text{C}\sim 50^{\circ}\text{C}$.

Technical Specification

	ETCR008 Sharp-nose type Leakage Current Sensor	ETCR014 Sharp-nose type Leakage Current Sensor	ETCR015 High Accuracy Clamp Leakage Current Sensor
Model			
Range	0.00mA~30.0A AC	0.00mA~100A AC	0.00mA~100A AC
Resolution	0.01mA AC	0.01mA AC	0.01mA AC
Accuracy Class	0.5	0.5	0.5
Turn Ratio	2500:1	2500:1	2500:1
Phase Error	$\leq 2^{\circ}$	$\leq 2^{\circ}$	$\leq 2^{\circ}$
Reference Load	0~300mA $\leq 300\Omega$; 0~3A $\leq 30\Omega$; 0~30A $\leq 3\Omega$	0~1A $\leq 300\Omega$; 0~10A $\leq 30\Omega$; 0~100A $\leq 3\Omega$	0~1A $\leq 300\Omega$; 0~10A $\leq 30\Omega$; 0~100A $\leq 3\Omega$; 0 ~ 10A $\leq 30\Omega$ 0 ~ 100A $\leq 3\Omega$
Frequency	10Hz~100kHz	10Hz~100kHz	10Hz~100kHz
Clamp Size	$\phi 8\text{mm}$	$\phi 14\text{mm}$	17mmX18mm
Dimension	137mmX40mmX19.5mm	142mmX46.7mmX22.6mm	47mmX92mmX26mm
Weight	175g	194g	约 156g

ETCR016/030/040/068/080 Clamp Leakage Current Sensor

Product Function

Measurement of AC leakage current, phase, power energy, power, power factor, harmonic, Power fault analyzer and so on industrial control device

Product Feature

1. Clamp structure, no need to interrupt the power supply and disconnect the circuit in testing, easy to carry and especially suitable for on-site online testing. Non-contact measurement, easy to operate, fast, safe and reliable.
2. Adopts Permalloy core and CT double-layer shielding technology, with high performance and high accuracy, high anti-interference ability, suitable for complex interference environment.
3. Output current or voltage signal.
4. Measure the leakage current of cable and electrical equipment when clamping the hot wire and zero wire together at the same time.
5. The range, transformation ratio, output interface of the sensor can be customized according to customer requirements.
6. Output interface: shielded wire 1.5m, wire terminal interface: φ3.5mm Audio plug/BNC plug/4.0mm Double banana plug (Can be customized)
7. Insulating strength: AC3700V/ms (between the core and coil)
8. Safety class: CAT III 600V
9. Output mode: induced current output

Technical Specification

Model	ETCR016	ETCR030	ETCR040	ETCR068	ETCR080
Range	0.00mA~20A	0.00mA~30A	0.00mA~40A	0.00mA~60A	0.00mA~60A
Resolution	0.01mA	0.01mA	0.01mA	0.01mA	0.01mA
Accuracy Class	0.5	0.5	0.5	0.5	0.5
Phase Error	≤2°	≤2°	≤2°	≤2°	≤2°
Turn Ratio	800:1	800:1	800:1	800:1	800:1
Reference Load	0 ~200mA ≤ 300Ω 0 ~2A ≤ 30Ω	0 ~300mA ≤ 300Ω 0 ~ 3A ≤ 30Ω	0 ~ 400mA ≤ 300Ω 0 ~ 4A ≤ 30Ω	0 ~ 600mA ≤ 300Ω 0 ~ 6A ≤ 30Ω	0 ~ 600mA ≤ 300Ω 0 ~ 6A ≤ 30Ω
Frequency	10Hz~100KHz	10Hz~100KHz	10Hz~100KHz	10Hz~100KHz	10Hz~100KHz
Clamp Size	Φ16mm	25mmX30mm	35mmX40mm	Φ68mm	80mmX80mm
Dimension	110mmX53mmX22mm	115mmX70mmX33mm	125mmX70mmX37mm	185mmX115mmX43mm	194mmX145mmX40mm
Weight	138g	180g	190g	530g	780g

ETCR030A/040A/068A/080A Clamp Current Sensor

Product Function

Detecting of AC current, phase, power energy, power, and power factor, harmonic, Apply to oscilloscope, harmonic analyzer, Power fault analyzer and so on industrial control device

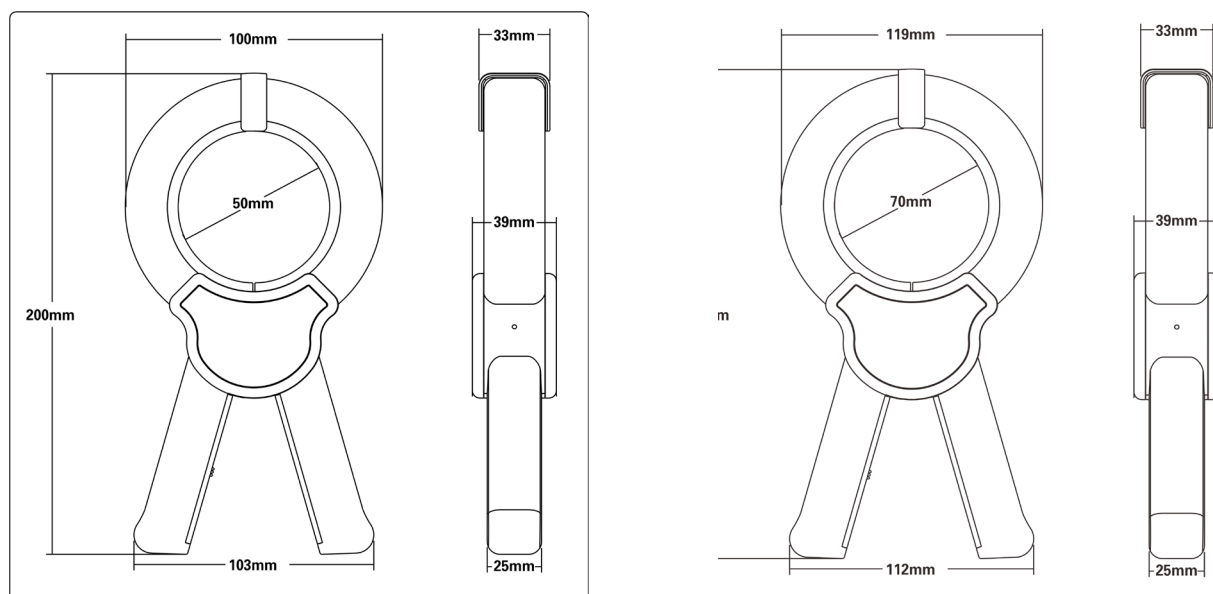
Product Feature

- 1.Clamp structure, no need to interrupt the power supply and disconnect the circuit in testing, easy to carry and especially suitable for on-site online testing. Non-contact measurement, easy to operate, fast, safe and reliable.
- 2.The core is made of high performance Ferro-nickel alloy, with high performance and high accuracy.
- 3.It can output current or voltage signal. The range, transformation ratio, output interface of the sensor can be customized according to customer requirements.
- 4.Output interface: BNC plug/ 4.0mm double banana plug/φ3.5mm Audio plug (optional), wire length: 1.5m
5. Insulating strength: AC3700V/ms (between the core and coil)
- 6.Safety class: CAT III 600V
- 7.Working temperature: -15°C ~ 50°C

Technical Specification

Model	ETCR030A	ETCR040A	ETCR068A	ETCR080A
Range	0.00A~300A	0.00A~500A	0.00A~800A	0.00A~1000A
Accuracy Class	0.5 ≤2°	0.5 ≤2°	0.5 ≤2°	0.5 ≤2°
Phase Error	Turn Ratio	3000:1	4000:1	2000:1
	Reference Load	0~3A ≤ 300Ω 0~30A ≤ 30Ω 0~300A ≤ 3Ω	0~5A ≤ 300Ω 0~50A ≤ 30Ω 0~500A ≤ 3Ω	0~8A ≤ 300Ω 0~80A ≤ 30Ω 0~800A ≤ 3Ω
Voltage Type	Output Voltage	0~3V(30Ω)	0~3V(24Ω)	0~3V(7.5Ω)
	Secondary Load	≥100KΩ	≥100KΩ	≥100KΩ
Frequency	10Hz~100KHz	10Hz~100KHz	10Hz~100KHz	10Hz~100KHz
Clamp Size	25mmX30mm	35mmX40mm	φ68mm	80mmX80mm
Dimension	115mmX70 mmX33mm	125mmX70mmX37mm	185mmX115mmX43mm	194 mmX145mmX40 mm
Weight	180g	190g	530g	780g

ETCR050/050A/070/070A Clamp Large Current Sensor







Product Function

AC large current, high harmonic current, phase, electric energy, power, power factor and other industrial electricity consumption and electricity metering detection. Apply for industrial control device, oscilloscope, harmonic analyzer, path analyzer, double clamp earth resistance tester, cable fault tester, power quality analyzer.

Product Feature

1. Clamp structure, no need to interrupt the power supply and disconnect the circuit in testing, easy to operate, fast, safe and reliable.
2. Input current range: 0mA ~ 600A, output signal: mA/A; mV/A; 1A; 5A.
3. Output interface: BNC plug/ 4.0mm double banana plug/ ϕ 3.5mm Audio plug /Aviation plug(optional), wire length: 1.5m
4. CT Size: ϕ 50mm.
5. Sensor Dimensions: 200mmX100mmX39mm
6. Weight: 550g
7. Safety Level: CAT III 600V
8. Certificate: ROHS
9. Working temperature: -15°C~50°C

Technical Specification

	ETCR050A	ETCR050A	ETCR070	ETCR070A
Model				
Range	0mA~600A AC	0.0A~600A AC	0mA~1000A AC	0.0A~1000A AC
Accuracy Class	0.5	0.5	0.5	0.5
Turn Ratio	2000:1	600:1	2000:1	1000:1
Phase Error	$\leq 2^\circ$	$\leq 2^\circ$	$\leq 2^\circ$	$\leq 2^\circ$
Reference Load	0~6A $\leq 300 \Omega$; 0~60A $\leq 30 \Omega$;0~600A $\leq 3 \Omega$	$\leq 2.5VA$	0~10A $\leq 300 \Omega$; 0~100A $\leq 30 \Omega$; 0~1000A $\leq 3 \Omega$	$\leq 2.5VA$;
Frequency	10Hz~100kHz	40Hz~1kHz	10Hz~100kHz	40Hz~1kHz
Clamp Size	Φ 50mm	Φ 50mm	Φ 70mm	Φ 70mm
Dimension	200mmX103mmX39mm	200mmX103mmX39mm	223mmX120mmX39mm	223mmX120mmX39mm
Weight	550g	550g	680g	680g

ETCR033H/040HA /048HA/068HA High Voltage Clamp Leakage Current/Current Sensor

Product Function

Detecting of H/L voltage AC leakage current/current, higher harmonic current, phase, electric energy, power, power factor, etc.

Product Feature

- 1.Unique automatic plug and pull clamp structure, no need to interrupt the power supply and disconnect the circuit in testing, easy to carry and especially suitable for on-site online testing. Non-contact measurement, easy to operate, fast, safe and reliable.
- 2.Adopts Permalloy core and CT double-layer shielding technology, with high performance and high accuracy, high anti-interference ability, suitable for complex interference environment.
- 3.Battery jar could put in 4pcs LR03 1.5V alkaline dry cell and supply power for secondary development.
4. Insulating rod interface: M24 screw thread.
5. Insulating strength: AC3700V/ms (between the core and coil)
- 6.Safety class: CAT III 600V (operate with insulation rod below 60kV)
7. Working temperature: -15°C~50°C

Technical Specification

Model	ETCR033H	ETCR040HA	ETCR048HA	ETCR068HA
Range	0.000mA~20AAC	0mA~800AAC	0mA~800AAC	0mA~1200AAC
Resolution	0.001mA	1mA	1mA	1mA
Accuracy Class	±1.0%	±1.0%	±1.0%	±1.0%
Phase Error	≤2°	≤2°	≤2°	≤2°
Turn Ratio	800:1	4000:1	4000:1	4000:1
Reference Load	0 ~ 200mA ≤ 300Ω 0 ~ 2A ≤ 30Ω 0 ~ 20A ≤ 3Ω	0 ~ 8A ≤ 300Ω 0 ~ 80A ≤ 30Ω 0 ~ 800A ≤ 3Ω	0 ~ 8A ≤ 300Ω 0 ~ 80A ≤ 30Ω 0 ~ 800A ≤ 3Ω	0 ~ 12A ≤ 300Ω 0 ~ 120A ≤ 30Ω 0 ~ 1200A ≤ 3Ω
Frequency	10Hz~100kHz	10Hz~100kHz	10Hz~100kHz	10Hz~100kHz
Clamp Size	Φ33mm	Φ36mm	Φ48mm	Φ68mm
Dimension	245mmX70mmX40mm	297mmX119mmX58mm	255mmX84mmX40mm	215mmX135mmX60mm
Weight	266g	336g	261g	492g

ETCR007AD/035AD/068AD AC/DC Clamp Current Sensor

Product Function

On-line detecting of AC/DC current.

Product Feature

1. Clamp structure, no need disconnect the line being tested, easy to carry and especially suitable for on-site online testing. Non-contact measurement, easy to operate, fast, safe and reliable..
2. Adopts Permalloy core and Hall induction technology, with high performance and high accuracy, high anti-interference ability.
3. Output current or voltage signal, the range, transformation ratio, output interface of the sensor could OEM.
4. Output interface: BNC plug, or 4.0mm Double banana plug/3.5mm audio plug/bare wire (optional), cable length 1.5m
5. Insulating strength: AC3700V/ms (between the core and coil)
6. Safety class: CAT III 600V
7. Working temperature: -15°C~50°C.

Technical Specification

Model	ETCR007AD	ETCR017AD	ETCR035AD	ETCR068AD
Range	0mA~50A AC/DC	0mA ~ 50A AC/DC	0.0A~1000A AC/DC	0.0A~1500A AC/DC
Resolution	1mA	1mA	0.1A	0.1A
Accuracy Class	±3.0%	±3.0%	±2.0%	±3.0%
Output Signal	10mV/1A or 100mV/1A(manual shift)	10mV/1A or 100mV/1A(manual shift)	1mV/1A	1mV/1A
Phase Error	≤3°	≤3°	≤3°	≤3°
Reset Mode	ZERO reset rotary knob	ZERO reset rotary knob	ZERO reset rotary knob	ZERO reset rotary knob
Clamp Size	Φ7mm	16mm X18mm	30mmX35mm	Φ68mm
Dimension	168mmX65mmX34mm	215mmX65mmX34mm	122mmX70mmX33mm	224mmX115mmX43mm
Weight	170g	202g	180g	515g
Power Supply	DC 9V Alkaline dry battery (6LR61 9V)			

ETCR030D Clamp DC Leakage Current Sensor




Product Function

On-line detect of DC leakage current

Product Feature

1. Clamp structure, no need to interrupt the power supply and disconnect the circuit in testing, easy to carry and especially suitable for on-site online testing. Non-contact measurement, easy to operate, fast, safe and reliable.
2. Adopts Permalloy core and CT double-layer shielding technology, with high performance and high accuracy, high anti-interference ability, suitable for complex interference environment.
3. The range, transformation ratio, output interface of the sensor can be customized according to customer requirements.
4. Output interface: 2-core shield wires (length: 2m), red wire-power output positive; yellow wire-output signal positive; shield wire-power output negative/output signal negative.
5. Working frequency: 10Hz~100KHz
6. Working temperature: -15°C~50°C
7. Insulating strength: AC3700V/ms (between the core and coil)
8. Safety class: CAT III 600V

Technical Specification

Model	ETCR030D 
Range	0.1mA~100mA DC
Resolution	0.1mA DC
Accuracy Class	±3.0%FS
Output Signal	25mV/1mA
Clamp Size	25mmX30mm
Dimension	115mmX70mmX33mm
Weight	180g

ETCR010K/025K/040K/080K Split Type High Accuracy Leakage Current Sensor

Product Function

Measurement of AC leakage current, higher harmonic current, phase, power energy, power factor.

Product Feature

- 1.Split type structure design, no need to interrupt the power supply and disconnect the circuit in testing, easy to carry and especially suitable for on-site online testing. Non-contact measurement, easy to operate, fast, safe and reliable.
 - 2.Adopts Permalloy core and CT double-layer shielding technology, with high performance and high accuracy, high anti-interference ability, suitable for complex interference environment.
 - 3.Measure the leakage current of cable and electrical equipment when clamping the hot wire and zero wire together at the same time
 - 4.Output current or voltage signal.
 - 5.Output interface: connection terminal (S1: coil signal +, S2: coil signal -, GND shielded terminal) or lead output
 - 6.The range, transformation ratio, output interface of the sensor can be customized according to customer requirements.
 7. Insulating strength: AC3700V/ms (between the core and coil)
 - 8.Safety class: CAT III 600V
- Working temperature: -15°C~50°C

Technical Specification

Model	ETCR010K	ETCR025K	ETCR040K	ETCR080K
Range	0.00mA~20A AC	0.00mA~30A AC	0.00mA~60A AC	0.00mA~60A AC
Resolution	0.01mA AC	0.01mA AC	0.01mA AC	0.01mA AC
Accuracy Class	0.5	0.5	0.5	0.5
Phase Error	≤2°	≤2°	≤2°	≤2°
Turn Ratio	800:1	800:1	800:1	800:1
Secondary Load	0 ~ 200mA ≤ 300Ω 0 ~ 2A ≤ 30Ω 0 ~ 20A ≤ 3Ω	0 ~ 300mA ≤ 300Ω 0 ~ 3A ≤ 30 Ω 0 ~ 30A ≤ 3 Ω	0 ~ 600mA ≤ 300Ω 0 ~ 6A ≤ 30Ω 0 ~ 60A ≤ 3Ω	0 ~ 600mA ≤ 300Ω 0 ~ 6A ≤ 30Ω 0 ~ 60A ≤ 3Ω
Frequency	10Hz~100KHz	10Hz~100KHz	10Hz~100KHz	10Hz~100KHz
CT Size	Φ10mm	Φ25mm	Φ40mm	Φ80mm
Dimension	53mmX42mmX28mm	78mmX82mmX31mm	95mmX98mmX31mm	135mmX153mmX40mm
Weight	65g	120g	160g	490g
Output interface	2-core shielded wire 2M	3P connection terminal		

ETCR010KD/025KD Split Type High Accuracy DC Leakage Current Sensor



Product Function

On-line detecting of DC leakage current .

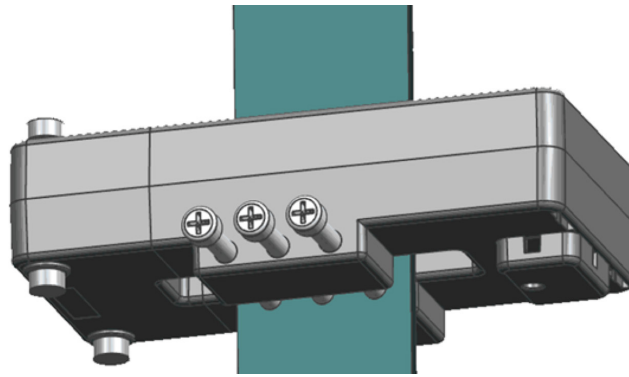
Product Feature

- 1.Split type structure design, no need to interrupt the power supply and disconnect the circuit in testing, easy to carry and especially suitable for on-site online testing. Non-contact measurement, easy to operate, fast, safe and reliable.
 - 2.Adopts Permalloy core and CT double-layer shielding technology, with high performance and high accuracy, high anti-interference ability, suitable for complex interference environment.
 - 3.The range, transformation ratio, output interface of the sensor could be customized according to customer requirements.
 - 4.Output interface: 4-core wire (Red power positive, white power negative, yellow output positive, shield output -/GND) or 5Pconnection terminal output (V-power negative, V+ power positive, AL alarm light control terminal, GND power and output ground, OUT output terminal).
 - 5.Insulating strength: AC3700V/ms (between the core and coil).
 - 6.Safety class: CAT III 600V.
- Working temperature: -15°C~50°C

Technical Specification

	ETCR010KD	ETCR025KD
Model		
Range	0.0mA~100mA DC	0.0mA~100mA DC
Resolution	0.1mA DC	0.1mA DC
Accuracy Class	±3.0%	±3.0%
Signal Output	50mV/1mA	50mV/1mA
CT Size	Φ10mm	Φ25mm
Dimension	53mmX42mmX28mm	78mmX82mmX31mm
Weight	About 75g	About 109g
Power Supply	±12VDC	±12VDC
Output Interface	4-core shielded wires	5P connection terminal

ETCR082K/085K Split Type Flat Port Leakage Current Sensor



Product Function

Measurement of high precision AC leakage current, current, higher harmonic current, frequency, phase, power and energy.

Product Feature

- 1.Split type structure design, no need to interrupt the power supply and disconnect the circuit in testing, easy to carry and especially suitable for on-site online testing. Non-contact measurement, easy to operate, fast, safe and reliable.
- 2.It adopts Permalloy core and CT double-layer shielding technology, with high performance and high accuracy, high anti-interference ability, suitable for complex interference environment.
- 3.Especially suitable for testing the leakage current of grounding flat steel.
- 4.Output current or voltage signal.
- 5.The range, transformation ratio, output interface of the sensor can be customized according to customer requirements.
- 6.Output interface: connection port (S1, S2 coil pigtail terminal, GND shielded terminal) or the lead output.
- 7.Insulating strength: AC3700V/ms (between the core and coil)
- 8.Safety class: CAT III 600V
- 9.Working temperature: -15°C~50°C

Technical Specification

Model	ETCR082K	ETCR085K
		
Current Range	AC 0.00mA~60.0A	AC 0.00mA~60.0A
Resolution	0.01mA	0.01mA
Accuracy Class	0.5	0.5
Turn Ratio	1000:1	1000:1
Phase Error	≤1°	≤1°
Reference Load	0 ~ 600mA ≤ 300Ω; 0~ 6A ≤ 30Ω; 0~ 60A ≤ 3Ω	0 ~ 600mA ≤ 300Ω; 0 ~ 6A ≤ 30Ω; 0 ~ 60A ≤ 3Ω
Working Frequency	10Hz~100KHz	10Hz~100KHz
CT Size	80mmX26mm	85mmX20mm
Dimension	132mmX101mmX25mm	160mmX80mmX58mm
Weight	About 800g	About 810g
Output Mode	Current induced output	Current induced output
Output Interface	2-core shielded wire, wire length 2M	3P connection port

ETCR022KU/045KU/080KU/090KU Microampere Level Split Type High-precision Leakage Current Sensor

Product Function

Detection of AC leakage current, higher harmonic current, phase, power factor. Lightning arrester and insulator on-line detecting

Product Feature

- 1.High anti-interference ability, CT double-layer shielding technology, with high performance and high accuracy, suitable for complex interference environment, Can accurately measure the weak current of 1 microampere.
- 2.Split type structure design, no need to interrupt the power supply and disconnect the circuit in testing, easy to carry and especially suitable for on-site online testing. Non-contact measurement, easy to operate, fast, safe and reliable.
- 3.The range, transformation ratio, output interface of the sensor can be customized according to customer requirements.

Output interface: connection terminal (S1: coil signal +, S2: coil signal -, GND: coil shielding layer) or BNC plug, or 4.0mm double banana plug/3.5mm audio plug/bare wire (optional), wire length 1.5m.

5. Insulating strength: AC3700V/ms (between the core and coil)

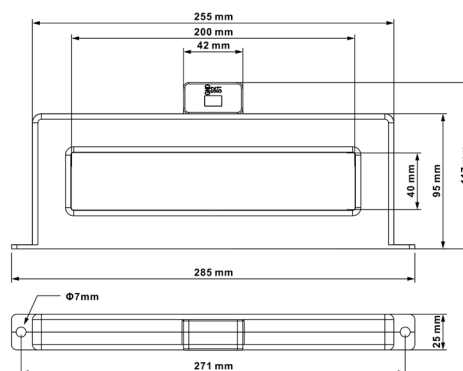
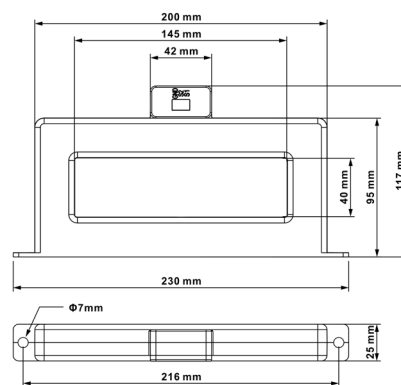
6.Safety class: CAT III 600V

7.Working temperature: -15°C~60°C

Technical Specification

Model	ETCR022KU	ETCR045KU	ETCR080KU	ETCR090KU
Range	0.000mA ~ 10A AC	0.000mA ~ 10A AC	0.000mA ~ 10AAC	0.000mA ~ 10AAC
Resolution	1uAAC	1uAAC	1uAAC	1uAAC
Accuracy Class	0.5	0.5	0.5	0.5
Phase Error	≤1°	≤1°	≤1°	≤1°
Turn Ratio	1000:1	1000:1	1000:1	1000:1
Secondary Load	0~100mA ≤ 300Ω 0~1A ≤ 30Ω 0~10A ≤ 3Ω	0~100mA ≤ 300Ω 0~1A ≤ 30Ω 0~10A ≤ 3Ω	0 ~ 100mA ≤ 300Ω 0 ~ 1A ≤ 30Ω 0 ~ 10A ≤ 3Ω	0 ~ 100mA ≤ 300Ω 0 ~ 1A ≤ 30Ω 0 ~ 10A ≤ 3Ω
Frequency	10Hz ~ 100KHz	10Hz ~ 100KHz	10Hz ~ 100KHz	10Hz ~ 100KHz
Split Size	Φ22mm	Φ45mm	80mmX20mm	Φ90mm
Dimension	96mmX94mmX34mm	118mmX116mmX34mm	165mmX88mmX34mm	179mmX171mmX31mm
Weight	480g	830g	820g	1350g
Output Interface	3P plug type connection terminal			

ETCR145C/ETCR200C High Precision Flat Port Leakage Current Sensor



Product Function

Detection of AC leakage current, higher harmonic current, phase, power, energy, power factor etc.

Product Feature

1. Flat mouth large diameter CT, non-contact measurement, easy to operate, fast, safe and reliable.
2. It adopts Permalloy core and CT double-layer shielding technology, with high performance and high accuracy, high anti-interference ability, suitable for complex interference environment.
3. It can simultaneously clamp the fire wire zero wire or three phase four wire to measure the leakage current of cable and electrical equipment. Output current or voltage signal.
4. The range, transformation ratio, output interface of the sensor can be customized according to customer requirements.
5. Insulating strength: AC3700V/ms (between the core and coil). Safety class: CAT III 600V
6. Working temperature: -20°C ~ 80°C

Technical Specification

Model	ETCR145C	ETCR200C
Range	0.00mA~60AAC	0.00mA~60AAC
Resolution	0.01mA AC	0.01mA AC
Accuracy Class	0.5	0.5
Phase Error	$\leq 2^\circ$	$\leq 2^\circ$
Turn Ratio	800:1	800:1
Secondary Load	0~100mA \leq 300 Ω 0~1A \leq 30 Ω 0~10A \leq 3 Ω	0~100mA \leq 300 Ω 0~1A \leq 30 Ω 0~10A \leq 3 Ω
Frequency	10Hz~100kHz	10Hz~100kHz
Split Size	145mmX40mm	200mmX40mm
Dimension	230mmX117.4mmX26mm	285mmX117.4mmX26mm
Weight	About 400g	About 550g
Output Interface	connection terminal (S1,S2 coil pigtail terminal, GND shield ground)	

ETCR-FA-FB Flexible Coil Current Sensor



Product Function

Measurement of AC large current, higher harmonic current, complex waveforms current, transient current, phase, electric energy, power, power factor etc.

Product Feature

- 1.No exposed metal conductors, non-contact measurement, safe and reliable.
- 2.Small and light, soft and flexible, suitable for cramped environment, ribbon cable intensive site, and measuring conductor currents of large size or irregular shape.
- 3.With wide range, high precision, strong reliability and wide response band of measurement. Particularly suitable for relay protection, silicon controlled rectifier, frequency control, semiconductor switches, power electronics conversion equipment, arc welding and son on serious signal distortion industrial environments.
- 4.Current range: 0A~10000A~more; Resolution:10mA
- 5.Phase Error: $\leq 0.1^\circ$
- 6.Current Frequency: 45Hz~70Hz (Measured current frequency)
- 7.Response Frequency: 0.1Hz~1MHz
- 8.Line voltage: Below AC 1000V line test
- 9.Operating temperature: $-20^\circ\text{C} \sim 50^\circ\text{C}$; below 80%RH
- 10.The coil length and interface can be customized according to user requirements.

Model Specification

Product Picture	Model	Coil Inner Diameter	Coil Length	Coil Weight	Coil Thickness
	ETCR50FA	$\Phi 50\text{mm}$	160mm	80g	$\Phi 7.5\text{mm}$
	ETCR100FA	$\Phi 100\text{mm}$	320mm	90g	
	ETCR150FA	$\Phi 150\text{mm}$	480mm	100g	
	ETCR200FA	$\Phi 200\text{mm}$	640mm	110g	
	ETCR300FA	$\Phi 300\text{mm}$	950mm	132g	
	ETCR500FA	$\Phi 500\text{mm}$	1580mm	170g	
	ETCR1000FA	$\Phi 1000\text{mm}$	3150mm	290g	
	ETCR1500FA	$\Phi 1500\text{mm}$	4720mm	390g	
	ETCR200FB	$\Phi 200\text{mm}$	640mm	212g	$\Phi 12\text{mm}$
	ETCR300FB	$\Phi 300\text{mm}$	950mm	274g	
	ETCR500FB	$\Phi 500\text{mm}$	1580mm	400g	
	ETCR1000FB	$\Phi 1000\text{mm}$	3150mm	715g	
	ETCR2000FB	$\Phi 2000\text{mm}$	6300mm	1340g	
	ETCR3000FB	$\Phi 3000\text{mm}$	9420mm	1970g	

ETCR001F Flexible Coil With Integrator (Separate Type)



Product Function

Measurement of AC current, higher harmonic current, Complex Waveforms current, transient current, starting current, Phase, Electric energy, power, power factor etc.

Product Feature

- 1.The separated integrator can be equipped with various specifications flexible coils , conveniently to meet different demand
- 2.Non-contact measurement, safe and reliable. With wide range, high precision, strong reliability and wide response band of measurement.
- 3.Integrator small size and light weight, coil soft and flexible, suitable for cramped environment, ribbon cable intensive site, and measuring conductor currents of large size or irregular shape.
- 4.Particularly suitable for relay protection, silicon controlled rectifier, frequency control, semiconductor switches, power electronics conversion equipment, arc welding and son on serious signal distortion industrial environments.
- 5.The coil diameter and length can be customized according to customer requirements.

Technical Specification

Model	ETCR001F
Material Coil Diameter	Φ7.5mm/Φ12mm (Optional)
Current Coil Diameter	Φ40~Φ3000mm (Optional)
Power Supply	DC9V Carbon dry cell battery 6LR61 (external power supply is available)
Range	AC 0A~3000A/6000A/10000A (Standard configuration 6000A)
Resolution	1A/2A/3A
Accuracy Class	±1%FS (50Hz/60Hz; 23°C ±2°C , Below 70%RH, the wire is in the center of the coil)
Phase Error	≤1° (50Hz/60Hz; 23°C ±2°C)
Signal Output	Full range corresponding the output AC 0~1V
Integrator Size	103mmX65mmX26mm
Integrator Weight	205g
Integrator Output Interface	3.5mmAudio frequency plug/BNC plug (Optional)
Output Line Length	2m
Electric Field Interference	No hysteresis effect, not effected by external electric field
Wire Position	The cable in the center of the coil and the position error affects ≤±0.5% FS
Response Frequency	0.1Hz~1MHz
Line Voltage	Below AC 600V
Accessories	Flexible coil: 1PCS; Integrator: 1PCS; 6LR61: 1PCS

ETCR002F Flexible Coil With Integrator(Integral Type)



Product Function

Measurement of AC current, higher harmonic current, Complex Waveforms current, transient current, starting current, Phase, Electric energy, power, power factor etc.

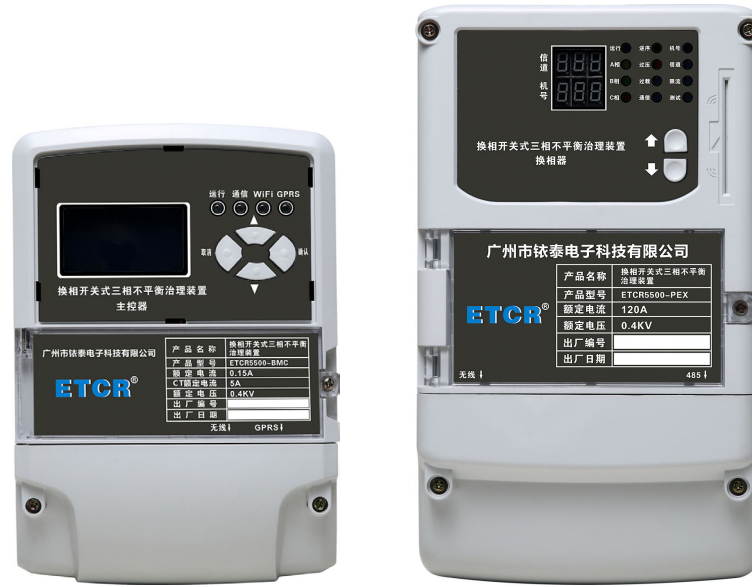
Product Feature

- 1.The integral type integrator can be equip with various lengths flexible coils, convenient to use in field.
- 2.Non-contact measurement, safe and reliable. With wide range, high precision, strong reliability and wide response band of measurement.
- 3.Integrator small size and light weight, coil soft and flexible, suitable for cramped environment, ribbon cable intensive site, and measuring conductor currents of large size or irregular shape sites, measure the size of a large or irregularly shaped conductor current.
- 4.Particularly suitable for relay protection, silicon controlled rectifier, frequency control, semiconductor switches, power electronics conversion equipment, arc welding and son on serious signal distortion industrial environments.
- 5.The coil diameter and length can be customized according to customer requirements.

Technical Specification

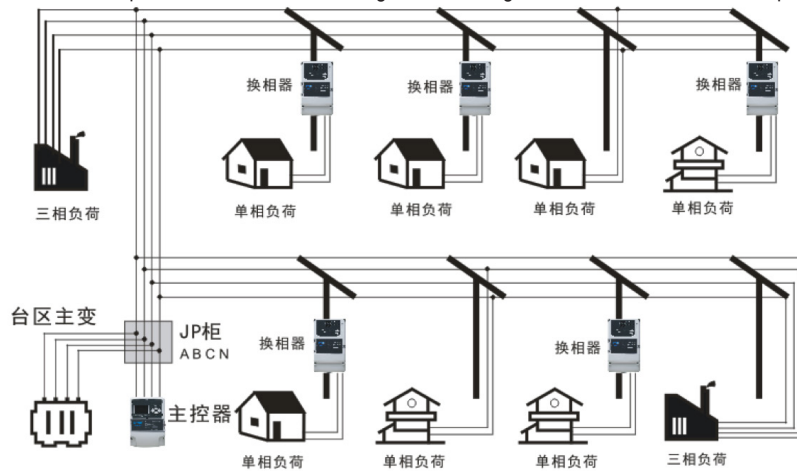
Model	ETCR002F
Material Coil Diameter	Φ7.5mm
Current Coil Diameter	Φ150~Φ3000mm (Optional)
Power Supply	DC9V Carbon dry cell battery 6LR61 (external power supply is available)
Range	AC 0A~3000A/6000A/10000A (factory standard 6000A)
Resolution	1A/2A/3A
Accuracy Class	±1%FS (50Hz/60Hz; 23°C ±2°C , Below 70%RH, the wire is in the center of the coil)
Phase Error	≤1°(50Hz/60Hz; 23°C ±2°C)
Signal Output	Full range corresponding the output AC 0~1V
Integrator Size	165mmX105mmX40mm (not include the coil)
Integrator Weight	200g
Integrator Output Interface	3.5mmAudio frequency plug/BNC plug (Optional)
Output Line Length	2m
Electric Field Interference	No hysteresis effect, not effected by external electric field
Wire Position	The cable in the center of the coil and the position error affects ≤±0.5% FS
Response Frequency	0.1Hz~1MHz
Line Voltage	Below AC 600V line test
Accessories	Flexible coil: 1PCS; Integrator: 1PCS; 6LR61: 1PCS

ETCR5500 Phase Swapping Type Three Phase Unbalance Correction Device



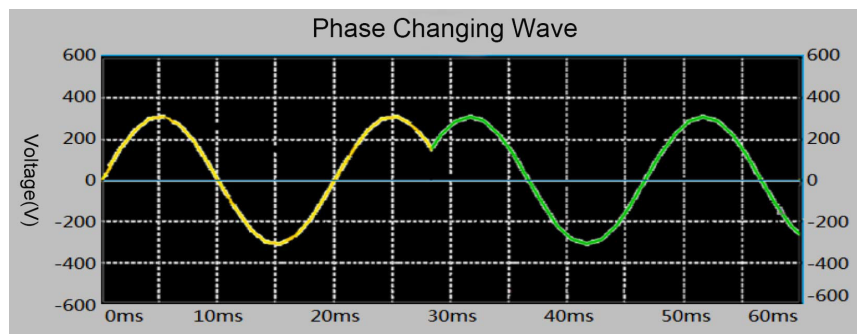
System Composition

Phase swapping type three - phase unbalance correction device compose by the main controller and phase converter. The main controller is responsible for collecting the real-time load data of the transformer area; analyze the load voltage and current of each phase converter; Form and send command to the phase converter. The phase converter receives and executes command from the main controller. The main controller and the phase converter wireless communicate by 230MHz. One main controller and several phase converter can be configured according to the LV transformer areas capacity and the severity of imbalance



Product Feature

1. Equal voltage 0ms seamless phase change technology, phase changing will not interrupt the power supply. Phase changing time is 0ms, precise and controllable. The phase changing process is completed by the power electronic device, no mechanical contact and will not generate ARC. After phase change, the permanent magnet switch keep a steady state without loss.
2. There is no inrush current in phase changing process, stable and reliable. Since the commutation time is 0ms, the phase jump of 120° is only at the moment when the voltage of the two phases is equal, which belongs to natural commutation, so there is no voltage mutation or inrush current.



3. Precise positioning phase converter ensures the balance of each branch of the distribution network hop by hop. The unique hop by hop voltage drop synthesis algorithm, priority to adjusting the phase converter closest to the extreme value of line unbalance degree, thus ensuring the optimal balance degree of each part of the line, reducing the neutral line current more effectively and improving the terminal supply voltage.

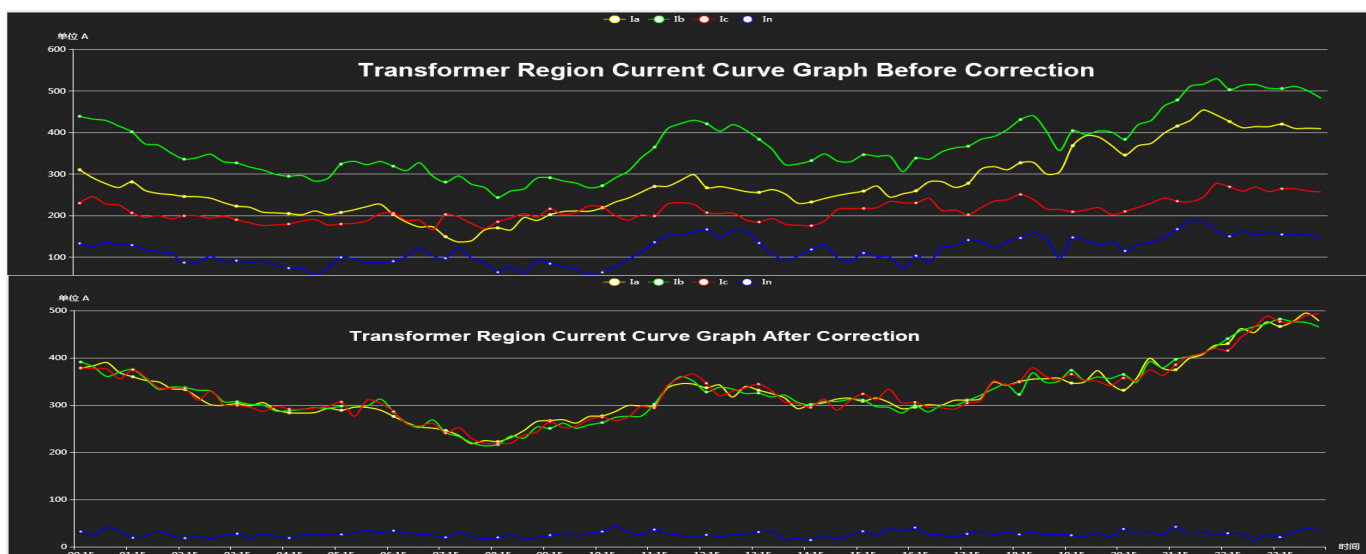
4. No adverse effects on all kinds of electrical equipment. Equal voltage 0ms seamless phase changing technology will not cause power supply interruption and voltage sag, and will not influence the user's electricity consumption. Stable and reliable phase changing for inductive, capacitive and resistive load.

5.Flexible function, parametric design. It can setting phase changing condition. The user can limit the phase changing and load adjustment according to the demand, such as: load rate, unbalance degree, neutral current, etc., only when the setting conditions are met, the system will automatically phase changing and load adjustment. Overload capacity of phase changing switch can be set. In case of overload, the phase changing switch will cut off the load and enter the latching protection to prevent overload side short circuit or overload to damage the equipment. The limit of overload protection can be set by the user. The main controller is equipped with a variety of communication mode for easy management and monitoring. The main controller and the phase converter switch adopt 230MHz wireless communication, and at the same time, RS485, GPRS and other communication interfaces are optional, so as to facilitate the exchange of data with other devices and systems. LV transformer areas hierarchical management, easy to large-scale deployment. LV transformer areas management according to the ownership, LV transformer areas code, phase converter switch number top-down system management, in the large-scale deployment can clear and rapid positioning. Product life management to ensure reliable operation. Each phase converter switch is guaranteed to have no less than 200,000 times of phase changing. When the number of phase changing exceeds 200,000 times, the commutation switch will not be phase changed any more. The product will be sent back to the company for replace component and can be put into use aga

Technology Specifications

Parameter Item	Phase Converter ETCR5500-PEX	Main Controller ETCR5500-BMC
Phase Change Time	0 ms	
Phase Change Mode	On load equal voltage 0ms seamless phase changing	
Phase Change Life	No less than 100,000 times	
Communication Mode	230MHz wireless communication, RS485	230MHz wireless communication; GPRS, RS485
Communication Distance	No obstacle≤4000m; between building≤1000m	No obstacle≤4000m; between building≤1000m
Wire Connection Mode	three-phase four-wire system	three-phase four-wire system
Interlocked Manner	Hardware dropout voltage, signal differential interlock; Software check and interlock	
Adjustment Mode		Real time current balance , power balance
Rated Voltage	Between Phase 380V/ phase zero 220V	Between phase 380V/phase zero 220V
Rated Current	60A/120A (optional)	< 0.05A ; sampling CT: 5A
Rated Frequency	50Hz, zallowable deviation: ±5%	50Hz, allowable deviation: ±5%
Voltage Measurement	0.0V~264.0V; ±0.5%	0.0V~264.0V; ±0.5%
Current Measurement	0.0A~120.0A; ±0.5%	0.0A~5.0A; ±0.5%
Active Power	0.0kW~31.68kW; ±1.0%	0.0kW~1.32kW; ±1.0%
Reactive Power	0.0kVA~31.68kVA; ±1.0%	0.0kVA~1.32kVA; ±1.0%
Inspecting Power	0.0kVar~31.68kVar; ±1.0%	0.0kVar~1.32kVar; ±1.0%
Power Factor	0.0~1.0; ±1.0%	0.0~1.0; ±1.0%
Insulation Resistance	≥100MΩ	≥100MΩ
Overload Capacity	2 times rated current: 1min	2 times rated current: 1min
Withstand Voltage	power frequency 2.5kV, impulse 5kV	power frequency 2.5kV, impulse 5kV
Power Consumption	≤2.5W	≤2.5W
Installation	column / wall	column / wall
Protection Level	IP54	IP54
Operational Environment	Indoor/ outdoor, -40°C ~85°C	Indoor/ outdoor, -40°C ~85°C
Altitude	≤2000M	≤2000M
Weight	About 3700g	About 3574g
Dimension	485mmX227mmX109mm	540mmX260mmX125mm

Operation Example





检验报告

No: JW181685



样品名称 换相开关式三相负荷不平衡自动调节装置
 样品型号 ETCR5500
 委托单位 广州市敏泰电子科技有限公司
 制造商 广州市敏泰电子科技有限公司
 签发日期 2018年09月12日



Field Installation

