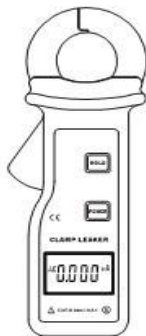


# ETCR<sup>®</sup> HIGH ACCURACY CLAMP LEAKER

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ETCR 6300  
ETCR 6500  
ETCR 6600

[www.etcrc.com](http://www.etcrc.com)



**USER MANUAL**

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**ETCR Electronic Technology Co. , Ltd**

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## Warning





Thank you for purchasing our company's **High Accuracy Clamp Leaker**, for better use of this product, please:

——**Read carefully the user's manual.**

——**Follow strictly safety rules and notes listed in this manual.**

- ⊍ Under any circumstances, please pay special attention to your safety in the course of using this leaker.
- ⊍ Give heed to label texts and symbols on panel and back plate of this leaker.
- ⊍ Please don't place and store this leaker in hot and humid condition, locations with moisture condensation and under direct sunlight for a long time.
- ⊍ In case voltage of battery was low , please replace batteries.
- ⊍ If you expect not to use the leaker for a long time, please take out batteries.
- ⊍ When changing batteries, please pay attention to the polarity of battery.
- ⊍ Use, disassembly and maintenance of this leaker shall be operated by

authorized personnel.

- ⌋ In case dangers would occur if continue to use a faulty leaker, please stop to use it and seal it for safekeeping immediately; and then, send it for disposal of authorized agency.
- ⌋ Users shall carry out operation based on danger signs  " on leaker and manual.
- ⌋ Users shall carry out safety operation based on instructions listed in this manual, e.g. " " and danger signs on this manual.
- ⌋ Please use **mA** to test leakage current (test by clamping grounding line, single-phase line together).

## I Introduction

High Accuracy Clamp Leaker is specially designed for measurement of AC leakage current; by adopting up-to-date CT technology and digital integration technology, it is a product with relatively small size, high accuracy and perfect function compared with similar leakers in the world. The leaker could be widely applied in those fields as electricity, communications, meteorology, railroad, oilfield, construction, measurement, scientific & research teaching institutes, industrial and mining establishments.

Clamp core of this **High Accuracy Clamp Leaker** adopts special alloy; in addition, with utilization of magnetic shielding technology, it is almost free from influences of external magnetic field so as to ensure high precision, high stability and high reliability of perennial continuous measurement.

**This High Accuracy Clamp Leaker** obtains one **RS232 interface**. With the help of the software that we provide, many functions are available. For example, on-line monitoring, historical data inquiry, active curve drawing, indication of max, min and average value, alarm setting and indication. There







are also functions like saving to documents and printing when connected to PC.

**This High Accuracy Clamp Leaker** could be used for AC Line current measurement and on-line current measurement with voltage lower than AC600V; it also have those functions as peaking holding, data holding and data storage; with convenient use, it is an essential tool for electrician safety testing.

## II Model Series

Model	Measure Range	Resolution	Clamp Dimension
<b>ETCR6300</b>	0.000mA~60.00A	1uA	25X30mm
<b>ETCR6500</b>	0.00mA~300.0A	10uA	35X40mm
<b>ETCR6600</b>	0mA~600A	1mA	35X40mm

### III Electrical Signs

	Extremely dangerous! Operators shall strictly keep to safety rules; otherwise there would be dangers of electric shock to cause personal injuries or casualties.
	Dangerous! Operators shall strictly keep to safety rules; otherwise there would be dangers of electric shock to cause personal injuries or casualties.
	Warning! Operators shall strictly keep to safety rules; otherwise personal injuries or equipment damages might be caused.
	Double insulation
	AC
	DC

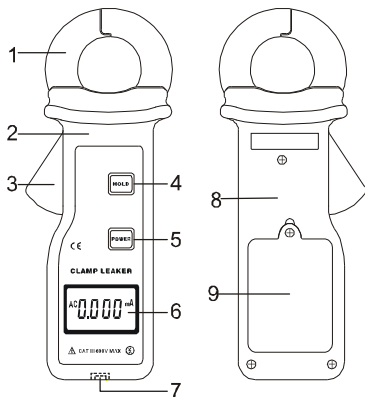
## IV Technical Specifications

<b>Function</b>	Measurement of AC leakage current, AC current and on-line measurement
<b>Power</b>	Zn-Mn dry battery,6F22,9V
<b>Test Mode</b>	Clip-on CT, integral mode
<b>Display Mode</b>	Four digits LCD display
<b>Dimension</b>	Width × Height× Thickness: 175mm×70mm×38mm
<b>LCD Dimension</b>	35mm×21.5mm; display domain: 32mm×15mm
<b>Sampling Rate</b>	about 2 times/s
<b>Frequency</b>	50/60Hz Automatically
<b>Range Shift</b>	Automatically
<b>Accuracy</b> (23°C±3°C, below 70%RH)	0.00~60.00A: ±1.5%±5dgt
	60.00A~199.9A: ±2%±5dgt
	200.0A~300.0A: ±4%±5dgt
	300.0A~600A: ±4%±5dgt
<b>Voltage Range</b>	AC600V
<b>RS232 Interface</b>	Data stored in the memory of the meter via RS232 upload to PC, or on-line monitoring
<b>Storage</b>	99units, all used when display <b>FULL</b>



<b>Peak Hold</b>	Push <b>HOLD</b> without release, the meter will show the peak value during the pushing period
<b>Reading Hold</b>	<b>DH</b> indicating the reading is hold
<b>Out of Range</b>	<b>OL</b> indicating the current is out of range
<b>Auto Power-off</b>	5 Minutes after power on, it will power off automatically to lower the power consumption
<b>Battery Voltage</b>	<b>⊖+</b> Indicating the battery voltage is lower then 7.2V.Then the battery have to be changed
<b>Weight</b>	120g (including the battery)
<b>Consumption</b>	About 5mW
<b>Temperature and Humidity</b>	Working: 0°C~40°C,below 80%rh Storage: -10°C~60°C,below 70%rh
<b>Insulating Strength</b>	AC2kV/rms (between the alloy of the clamp and the housing)
<b>Applicable Safety Rules</b>	IEC1010-1、IEC1010-2-032、pollution, etc 2、CAT III(600V)

## V Structure of the Leaker





- |                        |                     |                         |
|------------------------|---------------------|-------------------------|
| 1. Double Input Toroid | 2. Upper Cover      | 3. Toroid Opening Lever |
| 4. <b>HOLD</b> Key     | 5. <b>POWER</b> key | 6. LCD                  |
| 7. RS232 Interface     | 8. Back cover       | 9. Battery cover        |

## VI Operating Method


### 1. Start-up, Shutdown

Press **POWER** key to start up, LCD will begin to display; Press the **POWER** key again, the leaker will shut down. After starting up for 5 minutes, LCD will flicker notes that the leaker will shut down automatically; after flickering for 30s, it will shut down formally to reduce battery consumption. In case you have pressed **POWER** key when LCD was flickering, the leaker will continue to work for 5 minutes. If LCD was very dark after starting up, it might be caused by low-voltage battery, in this case, please change battery immediately.

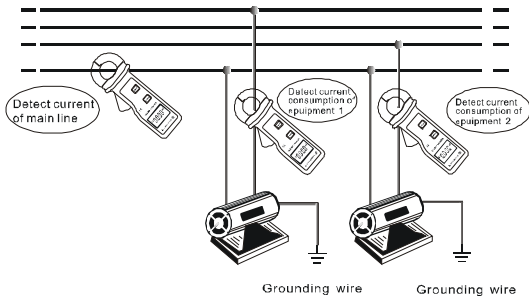
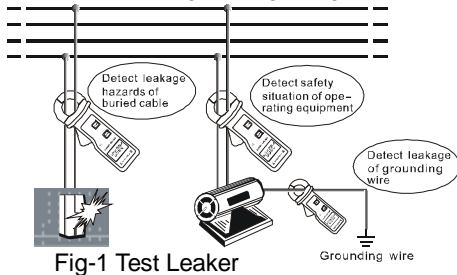
## 2. Leaker Measurement

	<b>High voltage, extremely dangerous! Operators shall strictly observe safety rules; otherwise there would be risk of electric shock to cause personal injuries or casualties.</b>
	<b>Dangerous! Please don't use it to measure current higher than 300A; otherwise there would be risk of electric shock to cause personal injuries or equipment damages.</b>

- 1) Power on.
- 2) Press down trigger to open clamp head and clamp to-be-measured conductors. (Be attention that clamp heads must be totally closed)


	<b>Clamp live wire and null line together is to measure leakage current of electrical equipment. (Note: 2 lines)</b>
	<b>Clamp earth wire is to measure grounding line leakage current of electrical equipment. (Note: single line)</b>
	<b>Clamp main line is to measure total current of that main line. (Note: single line)</b>

(See Reference Diagram Fig-1, Fig-2)



- 3) Read LCD display data. In case **OL mA** symbol was displayed, it means that current of measured line is beyond the maximum limit of this leaker; with this case, please shift gear with much higher range limit.

### 3. Peak Holding

	<b>Attention! For your safety, when measuring heavy current, after confirmed the completion of correct operating test, please move the leaker away from measured conductor.</b>
	<b>In locations with difficulty to read out data, please use the data holding function. If [DH] symbol displayed, please discharge data holding state first, and then do the test.</b>

Pressing **HOLD** key continually in the course of measurement (More than 3 seconds), the leaker will capture current peak values of lines in this period of time; release the key, it then will return to measuring state.

### 4. Hold, Storage and Access Reading

- 1) Pressing **HOLD** key for a short time in the course of measurement (less than 3 seconds), **DH** symbol will display, the leaker will hold current measuring data and automatically stored in the memory

with a unit ID; press **HOLD** key again to release the hold state, and the leaker continues its measuring; in case stored data reached to 60 groups, press **HOLD** key again, the “**FULL**” symbol will display, which means storage memory is full; press **HOLD** key to cancel “**FULL**” flickering and return to measuring mode.

- 2) Press **HOLD**+**POWER** keys to enter into data access mode and display Unit 1 storage data automatically; and then press **HOLD** key again to turn the page of stored data; **NULL** will display when there is no data in stored in the memory, press **POWER** key to exit data access mode.
- 3) After entering into data access mode, press **HOLD** key for more than 3 seconds will clean up all stored data; when the leaker displaying “**DEL**” symbol, it means that it has finished cleanup process, and then return to measuring state automatically.

## VII Function Quick Look Up

<b>POWER</b> Key Short Press	Power on/shutdown/exit
<b>HOLD</b> Key Shot Press	Data Holding/release/storage
<b>HOLD</b> Key Pressing for more than 3s	Peak Holding (at measuring mode)
<b>HOLD</b> Key Pressing Press for 3s	Clear Data(at access data mode)

**HOLD** Key + **POWER** Key

Data access /turn pages  
(**HOLD** key)

## VIII Display Example and Meaning

1.---Measured leakage current is  
0.25mA.



2.---Low battery, please change.



3.--- Measured leakage current is  
0.25mA is held and automatically  
stored unit ID is NO.03.





4. ---Access the unit 3 of the stored  
Data





## IX How to Change Battery

	<b>Warning! It is dangerous to carry out test when the battery cover plate was not on its position.</b>
	<b>Please pay attention to the polarity of battery to avoid damaging the leaker.</b>
	<b>Chang the low battery in time</b>
	<b>If you expect not to use the meter for a long time, please get off the battery to storage.</b>

- 1) “” symbol means the battery is undercharge and need to be replaced.
- 2) Press **POWER** key to shut down the leaker; before opening the battery cover, please confirm the leaker is in off position, and then replace with qualified new battery; special attention shall be paid to the polarity of battery; at last, cover battery cover plate.

## X Accessories

Clamp tester	1 pc
RS232 Com cable	1 pc
Software	1 disk
Battery (6F22 9V)	1 pc
User Manual	1 copy
Warranty card / Certification	1 copy

 **Manufactured by**

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